

**BASELINE CONTAMINATION
ASSESSMENT
AREA G, INTERMODAL LOGISTICS
CENTRE
COSGROVE ROAD, ENFIELD NSW**

Prepared for:



Sydney Ports Corporation
Level 4, 20 Windmill Street
Walsh Bay NSW 2000

Report Date: 09 January 2013
Project Ref: ENAURHOD04419AA

Written/Submitted by:

A handwritten signature in blue ink, appearing to read "Fiona Wong".

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ILC - CO - TO - Area G Baseline Contamination Assessment Report
ENAURHOD4419AA-R01a Final v1.0

09 January 2013

Sydney Ports Corporation
Level 4, 20 Windmill Street
Walsh Bay NSW 2000

Attention: Stephen Zaczekiewicz

Dear Steve

**RE: Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

Coffey Environments Australia Pty Ltd (Coffey) is pleased to present this Baseline Contamination Assessment for Area G at the Intermodal Logistics Centre, located on Cosgrove Road, Enfield, NSW.

Should you have any queries regarding this report, please do not hesitate to contact the undersigned on (02) 0406 1000.

For and on behalf of Coffey Environments Australia Pty Ltd



Sam Gunasekera
Principal

cc -

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1	ENAU RHOD04419AA-R01.doc	Final	9 January 2013	Sydney Ports Corporation	
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ABBREVIATIONS

ACM	Asbestos Containing Materials
AHD	Australian Height Datum
ALS	Australian Laboratory Services
ANZECC	Australian and New Zealand Environment and Conservation Council
ASSMP	Acid Sulfate Soil Management Plan
AST	Aboveground Storage Tank
BCA	Baseline Contamination Assessment
Bgs	below ground surface
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
C6-C36	Hydrocarbon chainlength fraction
COC	Chain of Custody
DBYD	Dial-Before-You-Dig
DGB	Dense Grade Base
DELEC	Diesel Electric and Electric Locomotive Maintenance Centre
DLWC	Department of Land and Water Conservation (NSW)
DQI	Data Quality Indicator
DQO	Data Quality Objective
GPS	Global Positioning System
H2SO4	Sulfuric Acid
HBSIL	Health Based Soil Investigation Level
ID	Identification
ILC	Intermodal Logistics Centre

ABBREVIATIONS

LOR	Limit of Reporting
MDL	Method Detection Limit
µg/L	micrograms per litre
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
NATA	National Association of Testing Authorities
NEHF	National Environmental Health Forum
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NSW DECCW	Department of Environment, Climate Change and Water of New South Wales
NSW EPA	Environment Protection Authority of New South Wales
NSW OEH	Office of Environment and Heritage of New South Wales
OCP	Organochlorine Pesticide
OPP	Organophosphorous Pesticide
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PID	Photoionisation Detector
Ppm	parts per million
ppmv	parts per million by volume
PQL	Practical Quantitation Limit
PTC	Public Transport Commission of New South Wales
QA	Quality Assurance
QC	Quality Control

ABBREVIATIONS

RAP	Remediation Action Plan
RB	Rinsate Blank
RPD	Relative Percent Difference
SAC	Soil Assessment Criteria
SCID	Stored Chemical Information Database
SOP	Standard Operating Procedures
SP	Separable Portion
SRA	State Rail Authority of New South Wales
TP	Test Pit
TPH	Total Petroleum Hydrocarbon
UST	Underground Storage Tank
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

Coffey Environments Australia Pty Ltd (Coffey) was engaged by Sydney Ports Corporation (Sydney Ports) to prepare a Baseline Contamination Assessment (BCA) for the portion of land known as Intermodal Terminal Storage Area G (Area G), located within the Intermodal Logistics Centre at Enfield (ILC@ Enfield), Cosgrove Road, Enfield, NSW (the site).

Sydney Ports is developing the former Enfield Marshalling Yard into the ILC Precinct and is planning to enter a lease with a commercial tenant for Area G. Based on the information provided by Sydney Ports, the key objective of this BCA is to provide the prospective lessee with a reasonable level of information on the existing contamination condition at the site prior to finalisation of the lease contract.

Area G comprises the former Toll building, its associated parking area and the area bound by the southern parking area within the investigation area and the newly constructed road bridge. Coffey has been involved with the remediation and validation works for the former Enfield Marshalling Yard since 2008. The works were subjected to a statutory site audit which was undertaken by Mr Graeme Nyland, a NSW EPA Accredited Site Auditor.

The area of the site, bound by the southern parking area within the investigation area and the newly constructed road bridge, was part of the Separable Portion 2 (SP2) in the Remediation Action Plan (RAP) prepared by Coffey in 2008. The RAP has not identified this part of the site as a 'known contamination area' and that no further remediation and validation works were required to be undertaken. SP2 was signed off by the Site Auditor in 2010 following the completion of the validation works. This part of the site will be referred to as the 'southern portion of the site' in this report.

The remainder of Area G was not included as a part of the site audit for SP2. Sydney Ports has now commissioned the Site Auditor to audit its suitability for the proposed commercial / industrial uses so that this part of the ILC Precinct can also be signed off under the existing Site Audit Statement. This portion of the site will be referred to as 'the investigation area' in this report. Therefore, a secondary objective of the BCA is to obtain sufficient site contamination information to facilitate the site audit process for this part of the site, with the aim of obtaining Site Auditor's sign off that the site is suitable for the continued commercial / industrial uses.

At the time of the fieldwork, the southern portion of the site was not accessible and no intrusive investigation could be undertaken for this BCA. A review of the historical assessment report, in particular, the site history review and the relevant soil data, was conducted as part of this BCA.

The supplementary site history review undertaken as part of this assessment indicates that the site was part of the former Enfield Marshalling Yard since the late 1910s but the site itself has not been heavily used for railway maintenance operation. Several small buildings were observed along the western and southern portions of the site where the former uses of these buildings were unable to be established, in particular a former building located in the southern portion of the site between 1970 and 1982 and the four smaller buildings located in the southern part of the investigation area between 1994 and 2009. The existing building was constructed between 1970 and 1982. Based on the dangerous goods search results the site was used as a liquid distribution centre by Interlink Distribution Services since 1995 at the earliest. The site was subsequently occupied by Toll Holdings in and around 1999.

Based on observations made during the fieldwork, the investigation area is generally underlain by a fill layer, between about 0.2m and 6.3m thick, comprising ash and reworked clay and shale materials, where the thickness of the layer was found to be greatest in the northern section of the investigation area gradually decreasing towards the southern part of the investigation area.

EXECUTIVE SUMMARY

Groundwater inflow was encountered within the fill layer in two of the boreholes located in the north-western section of the investigation area which is anticipated to be shallow perched water only.

The results of the field observations and laboratory analysis of selected soil samples, in which no results exceeded the site criteria indicate that, the underlying fill materials and natural clayey soils within the investigation area of the site have not been significantly impacted by current or historical site operations. Based on these findings, it is considered that the investigation area is unlikely to present a risk to users of the site in relation to soil contamination and therefore the portion of the site is suitable for continued commercial / industrial uses.

Although no intrusive investigation was undertaken in the southern portion of the site, it is considered that this section of the site should be suitable for the intended commercial / industrial uses given it was signed off by the Site Auditor.

This report should be read in conjunction with the attached ***Important Information About Your Coffey Environmental Report.***

1 INTRODUCTION

1.1 Background

Coffey Environments Australia Pty Ltd (Coffey) was engaged by Sydney Ports Corporation (Sydney Ports) to prepare a Baseline Contamination Assessment (BCA) for the portion of land known as Intermodal Terminal Storage Area G (Area G), located within the Intermodal Logistics Centre at Enfield (ILC@ Enfield), Cosgrove Road, Enfield, NSW and in Figure 1 (the site).

Sydney Ports is developing the former Enfield Marshalling Yard into the ILC Precinct and is planning to enter a lease with a commercial tenant for Area G. Based on the information provided by Sydney Ports, the key objective of this BCA is to provide the prospective lessee with a reasonable level of information on the existing contamination condition at the site prior to finalisation of the lease contract.

Area G comprises the former Toll building, its associated parking area and the area bound by the southern parking area within the investigation area and the newly constructed road bridge. Coffey has been involved with the remediation and validation works for the former Enfield Marshalling Yard since 2008. The works were subjected to a statutory site audit which was undertaken by Mr Graeme Nyland, a NSW EPA Accredited Site Auditor.

The area of the site, bound by the southern parking area within the investigation area and the newly constructed road bridge, was part of the Separable Portion 2 (SP2) in the Remediation Action Plan (RAP) prepared by Coffey in 2008. The RAP has not identified this part of the site as a 'known contamination area' and that no further remediation and validation works were required to be undertaken. SP2 was signed off by the Site Auditor in 2010 following the completion of the validation works. This part of the site will be referred to as the 'southern portion of the site' in this report.

The remainder of Area G was not included as a part of the site audit for SP2. Sydney Ports has now commissioned the Site Auditor to audit its suitability for the proposed commercial / industrial uses so that this part of the ILC Precinct can also be signed off under the existing Site Audit Statement. This portion of the site will be referred to as 'the investigation area' in this report. Therefore, a secondary objective of the BCA is to obtain sufficient site contamination information to facilitate the site audit process for this part of the site, with the aim of obtaining Site Auditor's sign off that the site is suitable for the continued commercial / industrial uses.

At the time of the fieldwork, the southern portion of the site was not accessible and no intrusive investigation could be undertaken for this BCA. A review of the historical assessment report, in particular, the site history review and the relevant soil data, was conducted as part of this BCA.

1.2 Objectives

The objectives of this BCA are to:

- provide the prospective lessee with a reasonable level of information on the existing contamination condition at the site prior to finalisation of the lease contract; and
- obtain sufficient site contamination information to facilitate the site audit process for the site, with the aim of obtaining Site Auditor's sign off that the site is suitable for continued commercial / industrial uses.

1.3 Scope of Works

The scope of works included the following:

- Reviewing available historical aerial photographs, noting changes to the site and surrounds, including potential filling, changes in landform, or potentially contaminating activities to supplement the review conducted by CH2M Hill in 1999;
- Reviewing available soil and groundwater data obtained from the CH2M Hill investigation in 1999;
- Conducting a search of dangerous goods records held by the workplace health and safety regulator (WorkCoverNSW), importantly providing information of regulated current or past fuel or chemical storage tanks locations at the site;
- Undertaking a site walkover prior to fieldwork;
- Obtaining Dial-Before-You-Dig (DBYD) Plans prior to fieldwork;
- Clearing all sampling locations using a qualified cable locator, with the assistance from the Leighton Contractor's (Leighton) General Superintendent, following by hand augering at all drilling locations to 1.2m below ground surface (m bgs) for underground service clearance, with the exception of the boreholes located at the newly constructed internal roads along the eastern site boundary, where hand auger was not possible due to the presence of compacted fill and the locations of underground services were marked on-site;
- Drilling of 25 boreholes across the site using a Geoprobe and a small driving rig to a target depth of 0.5m into natural material or refusal;
- Collecting soil samples from each borehole, at the surface and at regular intervals thereafter, or where there is a change in material type or field evidence of potential contamination is observed;
- Logging of materials observed in boreholes according to the Unified Soil Classification System (USCS) and recording borehole locations using a handheld Global Positioning System (GPS) device;
- Headspace field screening of collected samples for ionisable volatile organic compounds (VOC) using a calibrated photo-ionisation detector (PID);
- Implementing quality assurance / quality control program for the assessment;
- Dispatching soil samples to NATA accredited laboratories under chain of custody (COC) protocol;
- Laboratory analysis of selected soil samples at NATA accredited laboratories for Total Petroleum Hydrocarbon (TPH), Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Organochlorinate Pesticides (OCP), Organophosphate Pesticides (OPP), Polychlorinated Biphenyls (PCB), Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel and Zinc and asbestos; and
- Preparing this Baseline Contamination Assessment Report.

2 SITE INFORMATION

2.1 Site Identification

The site is located within the former Enfield Marshalling Yards which is approximately bound by Hume Highway to the north, Roberts Road and Wentworth Road to the west, Punchbowl Road to the south and Cosgrove Road to the east, as shown in Figure 1.

The site is located within part Lot 14 DP 1007302 and has been zoned General Industrial (IN1) under the Draft Strathfield Local Environment Plan 2011.

The site layout plan, including the site boundary and the various portions of the site, is provided in Figure 2. The southern portion of the site which was not accessible for intrusive investigation is also shown in Figure 2.

2.2 Proposed Development

Based on the information provided to Coffey, Sydney Ports has submitted a proposed subdivision plan to Strathfield Council. A review of the proposed plan indicates the ILC Precinct is proposed to be subdivided into 24 individual lots.

The site is identified as Lot 23 in the proposed subdivision plan and will which shows it as having an area of 25,472 square metres. A copy of the proposed subdivision plan is provided in Appendix A.

The site uses is to remain for commercial and industrial.

2.3 Site Description

The site is located in the central portion of the ILC Precinct. It is bound by an internal road to the east, a newly constructed overpass of the train tracks to the south, grassed area to the west and the north. The site was occupied by Toll Holdings and used as a liquid distribution centre before the site was vacant.

The site is currently used by Leighton for the storage of construction material at the time of reporting. A pugmill has temporarily been constructed at the site to process the Dense Grade Base (DGB) aggregate stockpile which is being used for the ILC construction works. The pugmill and stockpile are located in the northern portion of the site.

The former Toll building and the southern car parking area are still present at the site, which are also used for storage of construction materials.

A new internal road is under construction along the eastern portion of the site at the time of reporting. The southern portion of the site is now part of the ILC construction site.

The main site features are shown in Figure 2.

2.4 Topography, Geology and Hydrogeology

Detailed descriptions of the topography, geology and hydrogeology of the former marshalling yard, which includes the site, are presented in reports by Egis (2002). The major topographical, geological and hydrogeological features of the former marshalling yard from these reports have been summarised in the following paragraphs. Site specific subsurface conditions interpreted based on the findings of this investigation are provided in Section 7.1.

The former marshalling yard is located in a topographical depression, with an elevation of approximately 20m AHD across the majority of the yard. The marshalling yard rises to the north of the site, near the intersection of the Hume Highway and Roberts Road (32m AHD). The lowest point of the yard was noted around the southeast area in the vicinity of the Cox's Creek Channel, where the elevation is a 12m AHD and the channel intersects Cosgrove Road (Egis, 2002). In general, the yard slopes downward in a south-easterly direction, towards the Cosgrove Road / Punchbowl Road intersection.

The yard is covered by fill comprising imported clay and ash. The ash was reported to have originated from steam locomotives, which were stored on the yard prior to the development of the Locomotive Maintenance Centre. The fill extends to depths typically ranging from 2m to 4m, particularly on the eastern portion of the property. The fill material is underlain by 0.2m to 6m of natural clay, which is underlain by moderately weathered shale.

The direction of the natural groundwater flow was reported in Egis (2002) as eastern in general, with localised flow directions varying from north-easterly to south-easterly. The additional groundwater assessment conducted by Coffey in 2009 indicated that the groundwater flows in a south-easterly direction. Observations and measurements made during these past assessments and Coffey assessment indicated that the fill material is of low permeability.

Perched groundwater exists in the fill material above the natural clay materials, although it does not have a significant hydraulic gradient and has a low potential for movement (Egis, 2002). The perched groundwater was also considered to have little flow or migration and that movement of perched water would likely follow the boundary between fill material and natural clay (Egis, 2002).

Observations and measurements made during these past assessments indicated that the fill material is of low permeability. It was noted that monitoring wells screened in the ash took considerable time to recharge during development. The measured levels of the perched water were highly variable and there was no indication, under the dry weather conditions at the time that these bodies of perched water were either hydraulically connected or drained through conduits on the yard. In particular, there was no correlation found between the perched groundwater levels and the former drainage channels which traverse the subsurface of the yard.

2.5 Acid Sulfate Soils

A review of the 1:25,000 Botany Bay Acid Sulfate Soil Risk Map indicates that there is a low probability in acid sulfate soil occurrence. However, the south-eastern corner of the former marshalling yard is affected by acid sulfate soils (DLWC, 1997).

The acid sulfate soil characteristics for the former marshalling yard have been assessed in Egis (2002). This report noted that the majority of the former marshalling yard is mapped as Planning Class 5 Land, according to the Strathfield City Council Local Environment Plan (2000). In Class 5 Lands, soil planning and management provisions for acid sulfate soils are required for any works within 500m of adjacent Class 2, 3 or 4 Land, which are likely to lower the watertable below 1m AHD on adjacent Class 2, 3 or 4 Land. Where activities require excavation below 2m bgs, or to an extent which may result in the lowering of the watertable below 1m AHD, such work may be required to be done in accordance with an Acid Sulfate Soil Management Plan (ASSMP).

2.6 Surrounding Environment

Based on our knowledge of the former marshalling yard, a potential Green and Golden Bell Frog habitat is situated on either side of Cox's Creek canal (west of the rail line) in the southern portion of the former marshalling yard and that another potential habitat is present around the drainage line (east of the rail line) that crosses Cosgrove Road (approximately west of Cleveland Street).

The nearest surface water body is the Upper Cooks River, the nearest tributary of which is located approximately 1300m north-east of the former marshalling yard. Two stormwater drains, which pass under Cosgrove Road, flow from the site and into the tributary. The northernmost drain is located approximately adjacent to the fuel unloading area in the northern section of the former marshalling yard. The other drain (southern stormwater drain) is located in the vicinity of the northern site boundary.

3 SUPPLEMENTARY SITE HISTORY REVIEW

A supplementary site history review was undertaken as part of this BCA to supplement the site history review conducted by CH2M Hill in 1999. The review consists of a review of the previous investigation findings, historical aerial photography, dangerous goods record and a site walkover.

3.1 Previous Investigation Report Review

There are numerous investigations that have been undertaken at the former marshalling yard since the early 1990s. However, the site was not included in the majority of the investigation works as it was leased to Toll Holdings and excluded from the site auditing process at the time

The main contamination assessment report, which was prepared for the former marshalling yard, is the CH2M Hill (1999) Report:

- CH2M Hill Australia Pty Ltd [CH2M Hill] (1999), Part A of the Contamination Assessment at the Former Enfield Marshalling Yard, prepared for Sydney Ports Corporation, July 1999.

It should be noted that the review was limited to the site only.

CH2M Hill was engaged by Sydney Ports to undertake Part A of a Contamination Assessment of the State Rail Authority (SRA) owned portion of the Enfield Marshalling Yard, Enfield, NSW. The purpose of the assessment was to prepare a detailed historical review and undertake limited soil and groundwater sampling to identify potentially contaminated and uncontaminated areas of the former marshalling yard.

The site was purchased by the Public Transport Commission of New South Wales (PTC) which became the SRA in 1982. Prior to the land transaction in 1912, the eastern portion of the site was occupied by Enfield Park and a residence was present in the north-eastern corner of the site. It is understood that Sydney Ports took over the site in and around 1999. The site was already leased to Toll Holdings at the time of the CH2M Hill assessment in 1999.

A review of other site history information was undertaken by CH2M Hill but no other historical information relating to the site was provided in the report.

One sampling location (BH36) was sampled within the site. A total of five soil samples were collected from this sampling location and one soil sample submitted for analysis for TPH, BTEX, PAH, metals, OCPs, OPPs and total phenols.

No information regarding the subsurface conditions was provided to Coffey for review. The soil sample submitted for analysis was collected from the surface (0-0.1m) and concentrations of all analytes were reported below their respective soil acceptance criteria adopted by CH2M Hill.

Given that the southern portion of the site was not identified as a 'known contamination area' in the Remediation Action Plan (RAP) (Coffey, 2009), no additional investigation work was conducted within this portion of the site for the preparation of the RAP. Figure 3 shows the areas in the vicinity of the site that were covered by the RAP and subsequently audited and signed off by the Site Auditor in 2010 following the completion of the validation works.

3.2 Historical Aerial Photograph Review

A review of a selection of historical aerial photographs was undertaken specifically for the site. A summary of the findings of the historical aerial photograph review is presented below in Table 3.1. A Site Development History Plan is provided in Figure 4.

Table 3.1: Historical Aerial Photograph Review

Year	Site	Other Parts of the Former Marshalling Centre and Beyond
1943	The site is part of the marshalling yard. Three tracks, running in a south-east and north-west direction, are visible in the photograph. No buildings were observed at the site in the 1943 photograph.	A few railway tracks were observed to the west of the site and shipping containers are lining along the tracks. Industrial properties were observed on the opposite side of Cosgrove Road.
1951	The main southern stormwater drain is visible in the photograph, located in the northern portion of the site. A few more tracks were observed in the northern portion of the site, but the remainder of the site remains undeveloped. The vegetation appears to be denser with mature trees noted along the eastern site boundary.	The area to the immediate west of the site was cleared for the preparation of construction works. The marshalling yard located to the west of the site is operational with railway tracks and other associated infrastructures.
1961	The vegetation at the site appears to have stripped and prepared for construction. Around four small houses are present in the western and southern portions of the site.	The Wheel Lathe building located to the north of the site is present, together with the associated infrastructures located around the shed. The Main Fuel Storage Area is also visible on the photograph, which are located at the northern end of the former yard. Two large aboveground storage tanks are present to the east of Cosgrove Road. The area is developed with industrial properties noted to the east of the former yard and residential properties to the west of the site.
1970	It appears that two large stockpiles are located in the northern portion of the site. Land disturbance was also observed in the southern end of the site, but it is not clear if buildings are present. The central portion remains unchanged from the 1961 photograph.	The former marshalling yard is fully established where the main structures are present in the photograph. No apparent changes were observed in the surrounding area.

Year	Site	Other Parts of the Former Marshalling Centre and Beyond
1982	The former Toll building is present in the photograph. The northern portion of the site appears to be used for the storage of shipping containers. The southern parking area is also present. A building was observed in the southern portion of the site. All the present internal roads are also visible in the photograph.	No apparent changes were observed from the previous photograph.
1994	The northern portion of the site remains unchanged except less shipping containers were observed. Four buildings appear to be present in the current southern car parking area. The building, located in southern portion of the site, observed in the 1982 photograph, is no longer present. A stockpile / bare ground was observed in the central of this part of the site.	No apparent changes were observed from the previous photograph.
2009	The former Toll building is present in the photograph. Other than the building, the remainder of the site is used as a car park. The four buildings noted in the 1994 photograph are no longer present in the 2009 photograph.	No apparent changes were observed from the previous photograph.

3.3 Dangerous Goods Record

A search of the Stored Chemical Information Database (SCID) was conducted by the NSW WorkCover Authority on 21 December 2012. A review of the dangerous good record indicates that no underground storage tanks (USTs) were present at the site.

The search results reveals that a number of aboveground storage tanks (ASTs) were previously present at the site. The results are summarised in Table 3.2.

Table 3.2: WorkCover NSW Record Search Results

Licence No and Year	Licensee Details	ASTs and Capacities	Comments / Remarks
35/030273 1995	Interlink Distribution Service	600kg LPG gas cylinders [920 x 30kg]	Two dangerous goods storage areas are shown on the diagram provided as part of the application but no further details were provided for review.
35/020765 1999	Great Southern Inn	380kg liquefied petroleum gas (LPG) gas cylinders	The diagram attached to the application indicates that the Inn was located near Chandos Street which is <i>outside of the site boundary</i> .
35/030273 2002	Toll Transport P/L	9,000L Diesel 7,500L LPG cylinders	- Licence renewed in June 2004. - The diesel AST was located in the northern portion of the site. - The LPG AST was located to the south of the former warehouse building which was observed during site walkover (Section 3.4).
35/037732	Toll Transport P/L	40,000L fuel grade ethanol roadside tanker	No date and diagram provided as part of the search. However, based on the diagram provided by Toll in 2002, the roadside tanker appears to be located to the southern portion of the 'investigation area'.
Not provided	Alsco Services Pty Ltd	3,000L roofed store for caustic alkali liquid 1,000L sodium hydroxide solution 2,500L caustic alkali liquid 100kg disodium troxosilicate	The registered address is 100 Cosgrove Road and the chemicals appear to be used for water treatment. <i>It should be noted that this is outside of the site boundary.</i>

Based on the information provided in the record, the site appears to be used as a liquid distribution centre since 1995 by Interlink Distribution Service at the earliest and that Toll Holdings took over the site in and around 2002. It is understood that from the CH2M Hill Report that Toll Holdings actually took over the site in 1999 prior to licence renewal.

The exact nature of the distribution operation was not known, but based on the AST contents listed in the record, it appears that the site was used to distribute liquid fuel (diesel and LPG), and at some stage, food grade material was also included as part of the distribution operation.

The accompanied diagram also reveals that the site layout was slightly different from the present layout. Notably, a workshop building appears to be located in northern central portion of the site which was since demolished and partially beneath the warehouse building. No information relating to the workshop was provided in the search results.

A copy of the dangerous goods record is provided in Appendix B.

3.4 Site Walkover

A site walkover was undertaken by a Coffey Associate Environmental Engineer on 6 December 2012 and accompanied by Mr Bruce Royd and Mr Terry Daly of Sydney Ports.

Selected site photographs taken during the site walkover are provided in Appendix C.

3.4.1 Site Features and Conditions

The main site features and conditions observed during the site walkover are summarised below:

- The northern portion of the site was occupied by Leighton, the principal contractor for the development of the ILC Precinct and was observed to be concrete sealed, with the exception of the grassed area running across the central and eastern portions of the site, where the stormwater drains and water pipes are present.
- The pugmull compound was located in the central portion of the site which was used for processing the DGB aggregate stockpiles. At the time of the site walkover, the large stockpile was located in the north-eastern corner of the site, which has spread across to the Service Area lot (Lot 24). The smaller stockpile was located in the central eastern portion of the site.
- The existing internal roads were present at the time of site walkover and are used by trucks to load / unload the stockpiles.
- The north-western corner of the site was used as storage area and truck and excavator parking area.
- The former Toll building was present at the site which was also used as a storage area by Leighton.
- The internal road of the former Toll building was observed to be in good condition. The building was concrete sealed. No visual sign of spillage was observed and the no major concrete cracks were noted.
- The two former offices were not inspected but it is understood to be vacant.
- Stormwater pits and hydrants were observed along the grassed area located in between the stockpile and the internal road.

- The area to the south of the former Toll building was concrete sealed. Construction materials (pre-cast pipes) were observed in the southern part of this area.
- A weighbridge is located along the western site boundary which was constructed by Leighton for the DGB aggregating process. Former rail tracks were also observed along the western site boundary.
- The southern portion of the site was part of the ILC construction works at the time of site walkover.

3.5 Spills and Losses

No evidence of spills in the form of staining was observed on-site surfaces during site walkover.

3.6 Underground and Aboveground Storage Tanks

No aboveground storage tank (ASTs) were observed during the site walkover. The evidence included a disconnected cable, possibly associated with cathodic protection of the former AST that existed adjoining the south-western corner former Toll building was observed on the concrete surface. Part of the concrete pad which was used to support the former tank was present. No visual evidence was observed to locate the former diesel AST that was identified in the site history study to have been present in the where the temporary DGB aggregate stockpile stands as the stockpile was located on top of the area.

No visual signs of bowzers were noted during the site walkover and no visual signs of spillage of fuel were observed during the site walkover.

3.7 Site Drainage

Due to the extensive concrete paving of the site, drainage of the site occurs mainly by way of the stormwater pipe network that is present at the ILC Precinct. Stormwater pits were also observed within the grassed areas at the time of site walkover.

The discharge point or points for the site stormwater could not be located during the site walkover but it is anticipated to be connected to the main southern stormwater drain located in the northern portion of the site.

3.8 Discharges to Land, Water and Air

No apparent visual evidence of discharges to land, water or air was observed at the site during the site walkover. The site was being used by Leighton for the ongoing ILC construction works at the time of site walkover.

3.9 Wastes

The site was part of a construction site at the time of the site walkover. General solid wastes generated from the ongoing construction activities were observed.

3.10 Staining and Odours

No apparent visual and/or olfactory evidence of discoloured soils was observed at the time of site walkover.

3.11 Phytotoxicity

There was little vegetation present at the site. The only vegetated areas of the site include the grassed area and the landscaped gardens around the building. The vegetation did not appear to have significant signs of phytotoxic impact (e.g. stress or dieback) during the site walkover.

3.12 Asbestos

There were no apparent visual evidence of potential asbestos containing materials (ACM) observed on the surface of the site during the site walkover.

An Asbestos Materials Survey Report was prepared by Noel Arnold and Associates in July 2009 which was provided to Coffey at the time of reporting. The survey results indicate that ACM were identified in the delivery office and the administration building. It was understood that the results of the asbestos survey were used to prepare an asbestos register for the site which was not available to Coffey for review at the time of preparing this report.

3.13 Fill Material

There was no apparent visual evidence observed to indicate the widespread presence of fill material on the site. However, based on the geological data obtained from the previous investigations, it is understood that ash fill and clay fill are widespread across the site and the former marshalling yard.

3.14 Chemical Inventory

There was no chemical inventory made available to Coffey at the time of the site walkover.

3.15 Incident History

No information was made available for Coffey to review at the time of reporting.

3.16 Complaint History

No information was made available for Coffey to review at the time of reporting.

3.17 Anecdotal Evidence

Information provided by Mr Bruce Royd and Mr Terry Daly from Sydney Ports during the site walkover included the following:

- The site was used by Toll Holdings before it was vacant in 2009. This part of the former marshalling yard was not included in the previous site investigations.
- An AST was formerly located adjacent to the former office building. Based on the information provided to Coffey, refuelling was previously undertaken when Toll Holdings was operating at the site. No further information was available on the refuelling operation.
- No known underground storage tanks (USTs) were present at the site.
- The site was used and managed by Leighton at the time of reporting. The northern portion of the site was used for the process of the DGB aggregate stockpiles and the remainder of the site was used for storage of construction materials.

- Based on the information provided by Leighton, the immediate area to the north of the former warehouse building was used as a designated refuelling area at the time of site walkover.

3.18 Site History Summary

Based on the site history review, the site was purchased by the Public Transport Commission of New South Wales (PTC) which became the State Railway Authority (SRA) in 1982. It is understood that Sydney Ports took over the site in and around 1999 for the construction of the ILC Precinct. The site was already leased to Toll Holdings at the time of the CH2M Hill assessment in 1999.

A review of the aerial photography indicates that the site not to have been heavily used for railway maintenance operation. Some building structures were constructed and operated at the site between 1970 and 1994 which have since been demolished. The exact usage of the buildings could not be identified from the aerial photography review. The former Toll building was constructed between 1970 and 1982 which remains at the site to present day.

The site appears to have been used as a logistics centre since at least 1999 until the site was closed in and around 2008. Other than the presence of the AST, fuel distribution and refuelling processes, no other contaminating activities were identified during this supplementary review. A workshop was formerly located to the north of the former Toll building but the nature of the operation was not known.

Although anecdotal information indicates that no contamination assessment has been undertaken at the site, it appears that the site was included as part of the assessments conducted by CH2M Hill and Egis. Based on the limited soil data collected during those investigations, soil contamination was not reported to be present at the site.

4 FIELD AND LABORATORY PROGRAM

4.1 Overview

The objective of this field and laboratory program is to assess if soil contamination is present at the site as a result of the current and historical site operations. The data is used to form the baseline conditions at the site prior to finalisation of the lease contract and to assist the site audit process.

It is important to note that the site was used by Leighton at the time of fieldwork and the following areas were not accessible due to ongoing construction activities / restrictions:

- Areas where underground services are known to be present;
- Part of the northern portion of the site where the pugmill and DGB aggregate stockpile were located;
- The north-western section of the site which was used for the storage of construction materials;
- The grassed area located in between the western internal road and the former Toll building where stormwater and water pipes were located;
- The southern portion of the 'investigation area' which was also used for the storage of construction materials;
- The southern portion of the site where access was not granted from Leighton at the time of fieldwork;
- The existing building footprints of the two office buildings; and
- The existing internal road located to the east of the former warehouse building.

The fieldwork was designed to meet NSW EPA *Sampling Design Guideline (1995)* minimum sampling points required for site characterisation in Table A of the document for the accessible areas of the site, estimated to be approximately 70% of the overall site area. Systematic sampling pattern was adopted to provide sufficient site coverage. Borehole locations were also cleared with Leighton's to take into account ongoing construction requirements and the presence of underground services.

In summary, the field and laboratory program consisted of:

- Drilling of 25 boreholes carried out using soil push tube techniques. Boreholes were carried out to depth ranging from 0.5m to 3.0m bgs;
- Collection of soil samples at regular intervals or at depths where visual and/or olfactory signs of contamination was observed;
- Logging of soil lithology and screening of soils in the field for indications of contamination;
- Survey of each soil bores using a handheld GPS;
- A Quality Assurance/Quality Control (QA/QC) program, comprising the application of standard procedures for environmental assessment, use of NATA accredited laboratories and collection and analysis of Quality Assurance samples; and
- Laboratory analysis of selected soil samples at NATA accredited laboratories.

Details of the field and laboratory methods applied are provided as follows:

4.2 Field Methods and Procedures

Fieldwork was undertaken by Coffey environmental scientists on 8 and 9 December 2012.

Sample collection was conducted in general accordance with relevant Coffey Standard Operating Procedures which are based on general industry standards, the *National Environment Protection (Assessment of Contamination) Measure (1999)*, and Australian Standards AS4482.1 and AS4482.2, *Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil (Part 1 Non-volatile and semi-volatile compounds; and Part 2 Volatile Substances)*.

4.2.1 Cable Locating and Concrete Coring

Copies of the Dial-Before-You-Dig (DBYD) plans of the site were obtained and reviewed by Coffey prior to the commencement of drilling works.

All drilling locations were approved and cleared by Leighton prior to the commencement of field program. Some of the original borehole locations were relocated due to the presence of underground services, obstruction and access restriction.

Cable location was undertaken by a cable locator on 8 December 2012 at the final borehole locations as a precautionary measure.

Concrete coring was undertaken by the concrete coring contractor on 8 and 9 December at 13 borehole locations (BH1, BH5, BH6, BH9, BH10, BH11, BH13, BH14, BH16, BH17, BH18, BH20, BH24 and BH25).

4.2.2 Hand Augering

In accordance with Coffey procedures in order to further reduce the risk of underground services being impacted, all borehole locations were also initially extended by hand auger to a depth of 1.2m bgs prior to mechanical drilling, with the exception of the boreholes located at the newly constructed internal roads along the eastern site boundary, where hand auger was not possible due to the presence of compacted fill and the locations of underground services were marked on-site.

Boreholes BH17 to BH19, BH21 to BH23 were hand augered to depths ranging between 0.3m and 0.85m bgs. No further drilling was undertaken at BH21 and BH22 due to hand auger refusal. Target depth was reached at BH17 to BH19 and BH23 where the borehole was advanced 0.5m into natural soils.

A copy of the sampling locations plan is provided in Figure 5. Soil lithology and observations were recorded on borehole logs, which are included in Appendix D.

4.2.3 Mechanical Drilling

Mechanical drilling was undertaken between 8 and 9 December 2012. A total of 20 boreholes were drilled across the site to depths ranging between 1.2 and 6.5m bgs, at locations presented in Figure 5. Soil lithology and observations were recorded on borehole logs, which are included in Appendix D.

The boreholes were drilled using a Geoprobe and a Small Driving Rig. The boreholes were 50mm in diameter and were advanced using a push tube tooling 0.5m into natural material below the fill layer or refusal. The push tube was lined with disposable plastic PVC liners. A new 1m length liner was used for every 1m of push tube core advancement.

The boreholes were backfilled with the excess soil cuttings following the sampling. The approximate locations of sampling points were measured using a handheld GPS.

4.3 Soil Sampling and Analysis

Soil samples were collected directly from the hand auger or push tube liner using disposable nitrile gloves. Samples were collected at selected intervals, at ground surface and subsequent intervals of 1.0m, or where changes in lithology or potential contamination were observed. Soil samples were field screened in the field for Volatile Organic Compounds (VOC) using a calibrated photo-ionisation Detector (PID).

Following sample collection, all soil samples were immediately placed in ice chilled eskies. The eskies contained ice to maintain the internal temperature near 4°C. The sample eskies were forwarded to mgt-LabMark Environmental Laboratories (mgt-LabMark) at Lane Cove West NSW under Coffey Chain-of-Custody (COC) protocols for chemical analysis for the Contaminants of Concern. A verified copy of the COC was returned to Coffey along with the sample receipt acknowledgment. Copies of the COCs are presented in Appendix E.

The number of analytical tests scheduled for soil samples collected from the site is summarised in Table 4.1.

Table 4.1: Schedule of Analysis for Soil Samples

Analyte	Number of Soil Samples Analysed
TPH/BTEX/PAH	37
Heavy metals - As, Cd, Cr, Cu, Pb, Ni, Zn, Hg	37
OCP/OPP/PCB	23
Asbestos	37

Inter-laboratory (triplicate) samples were also collected and were analysed by a secondary laboratory. The secondary laboratory was Envirolab Service Pty Ltd, Chatswood, NSW.

4.4 Quality Assurance / Quality Control Plan

A QA/QC Plan was designed to achieve predetermined data quality indicators (DQIs) that demonstrate accuracy, precision, comparability, representativeness and completeness of the data generated. All fieldworks and laboratory analysis was undertaken in accordance with the QA/QC Plan and is summarised below.

4.4.1 Quality Assurance

The fieldwork was undertaken by experienced and appropriately qualified Coffey environmental scientists/engineers. Field procedures employed in the current fieldworks were consistent with relevant Coffey SOPs which are based on general industry standards, relevant schedules of the National Environment Protection (Assessment of Site Contamination) Measure (1999), and the Australian

Standards AS4482.1 and AS4482.2, *Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil (Part 1 Non-volatile and semi-volatile compounds; and Part 2 Volatile Substances)*.

4.4.2 Field Quality Control Samples

The following QC samples were collected during the fieldwork program:

- A total of four soil intra-laboratory duplicates and two soil inter-laboratory duplicates were collected and submitted for chemical analysis;
- One equipment rinsate sample was collected each day from re-usable sampling equipment for chemical analysis. A total of two equipment rinsate samples (RB1 and RB2) of the hand auger were collected; and
- Trip blanks and trip spikes were collected at a rate of one per sample batch and were analysed for BTEX and TPH C₆-C₉.

4.4.3 Laboratory Quality Control Samples

Laboratory QC included the following:

- The laboratory analysis of primary and duplicate samples was undertaken by mgt-LabMark at Lane Cove West, which is NATA accredited for the chemical analyses undertaken. Analysis of soil samples for asbestos was undertaken by Australian Safer Environment & Technology Pty Ltd (ASET), which is NATA accredited for the asbestos analysis undertaken;
- The laboratory analysis of the secondary samples was undertaken by Envirolab Services at Chatswood, which is NATA accredited for the chemical analyses undertaken;
- Both laboratories implemented a QC plan conforming to the NEPC (1999) National Environment Protection Measure (NEPM) Guideline on Laboratory Analysis of Potentially Contaminated Soils; and
- Both laboratories performed reagent blanks, spike samples, duplicate spikes, matrix spikes, surrogate spikes and duplicates to assess laboratory QC.

5 DATA VALIDATION AND QUALITY ASSESSMENT

5.1 Fieldwork Data

5.1.1 Sampling

Sampling was undertaken in general accordance with the relevant sections of Coffey standard operating procedures (SOPs), which are based on accepted industry practices and by suitably qualified Coffey environmental scientists.

Soil sampling was undertaken at regular intervals, at change of geological conditions and visual and/or olfactory signs of contamination.

5.1.2 Sample Storage and Transport

Soil samples were placed in laboratory prepared containers and stored in insulated containers with ice, for transportation to the NATA accredited analytical laboratory under Chain of Custody (COC) protocol. Copies of the COC are presented in Appendix E.

5.1.3 Field Duplicates and Triplicates

Intra- and inter-laboratory duplicates were collected and analysed at a rate of 10% and 20%, respectively, during the sampling program.

The relative percent difference (RPD) between the primary samples, duplicates and triplicates analysed for soils were within the acceptance limits of 50%, with the exceptions presented in Table 5.1.

Table 5.1: Field Duplicates and Triplicate RPD Exceedences

Parent Sample ID	Duplicate/Triplicate ID	Analyte	RPD (%)
BH9_0.9-1.0	DUP2	Copper	52
BH9_0.9-1.0	DUP2A	Arsenic	68
BH9_0.9-1.0	DUP2A	Chromium	131
BH9_0.9-1.0	DUP2A	Copper	95
BH14_0.9-1.0	DUP4	Lead	67
BH14_0.9-1.0	DUP4A	Chromium	143
BH14_0.9-1.0	DUP4A	Copper	67
BH14_0.9-1.0	DUP4A	Zinc	58
BH3_1.9-2.0	DUP9	Arsenic	79

Parent Sample ID	Duplicate/Triplicate ID	Analyte	RPD (%)
BH3_1.9-2.0	DUP9	Copper	80
BH3_1.9-2.0	DUP9	Lead	110

The RPD exceedances between the primary, duplicate and triplicate soil samples are considered to be attributable to the heterogeneous nature of the fill materials sampled for analysis.

The results of duplicates and triplicates analysis, and RPD calculations, are presented in Table 2.

5.1.4 Rinsate Blanks

Two rinsate samples (RB1 and RB2) were collected from the hand auger at the end of each sampling day. Concentrations of the analytes were reported below their respective laboratory limits of report (LORs) in both samples. Details of rinsate sample analysis are presented in Table 3.

5.1.5 Trip Blank and Trip Spike

Trip blank was prepared by the laboratory and travelled to the field and was returned for analysis during the soil sampling event. The analyte concentrations in the trip blanks analysed were below laboratory LOR, indicating that samples were unlikely to have been cross contaminated by any volatile contaminants during storage and transport.

Trip spike was also prepared by the laboratory for the soil sampling event. The spike recoveries in the trip spike analysed were within acceptance limits, indicating that sample storage and preservation procedures were adequate.

Details of trip blank and trip spike sample analysis are presented in Table 4.

5.1.6 Sample Preservation and Storage

The sample storage and preservation methods used for the soil monitoring event are presented in Table 5.2.

Table 5.2: Soil Sample Preservation and Storage

Analyte	Sample Volume and Container	Preservative	Storage
All analytes	1 x 250mL jar	Nil	Insulated container with ice

5.1.7 Sample Transport

The sample containers were transported to the NATA accredited analytical laboratory with the COC form, recording the following information:

- Project reference;
- Date of sampling;
- Sample identification;

- Matrix and container details
- Preservation method;
- Name of sampler;
- Required analysis;
- Turnaround times required; and
- Signatures of sender and receiving laboratory.

Samples were transported to the laboratory with sufficient time to perform analysis within the applicable holding period.

5.2 Laboratory Data

An assessment of laboratory data quality was undertaken. The results of this assessment indicated the following:

- Laboratory analysis of samples was undertaken by NATA accredited environmental testing laboratories;
- The laboratory methods and laboratory LOR for the sample matrix and analytes selected were appropriate;
- The laboratory methods used were consistent between laboratories and sampling events;
- Samples were extracted and analysed within holding times;
- Laboratory method blank analytical results were below the laboratory LORs;
- Laboratory control sample errors were reported as being within acceptance limits, with the exception of some metals. However, the results are considered to be acceptance given the reported concentrations are 10 times less than their respective LORs;
- Spike percentage recoveries were reported as being with laboratory acceptance limits;
- RPDs between samples and laboratory duplicates, were reported as being within acceptance limits; and
- The LORs for all analytes were below the adopted assessment criteria.

5.3 Data Quality Assessment

The RPD exceedances reported between the primary, duplicate and triplicate soil samples are likely to be attributable to the heterogeneous nature of the fill materials present at the site, which may influence the reproducibility of laboratory analytical data for fill material at the site. Given that the reported concentrations were well below the adopted investigation criteria, it is considered that the elevated RPDs are not materially affected the conclusions of this investigation. Therefore, based on an assessment of the quality of historical data, field data and laboratory data, Coffey considers the data quality objectives (DQO) have been achieved and that the data assessed is adequately complete, comparable, representative, precise and accurate for interpretative purposes.

6 SITE ASSESSMENT CRITERIA

6.1 Soil Assessment Criteria

Coffey assessed the data generated in this investigation with regard to Soil Assessment Criteria (SAC) contained in the following guidelines:

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

Considering the use of the site is for commercial/industrial purposes, soil investigation results for were assessed against and Health-based Investigation Level (HIL) from Column F, Table 5A of the National Environment Protection (assessment of Site Contamination) Measure 1999 (NEPC, 1999) as follows:

- Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites.

Currently, there are no nationally endorsed HILs for volatile petroleum hydrocarbons. Human health based threshold criteria for sensitive land use for petroleum based organic contaminants published in NSW EPA (1994) have been applied (without multiplication) to supplement the published HIL-F.

NSW DEC (2006) states that there are currently no national or NSW DECCW endorsed guidelines relating to human health or environmental investigation of material containing asbestos. Therefore, the current NSW OEH advice that there should be no asbestos in surface soils will be adopted as the site assessment criteria for asbestos. The WA Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia – May 2009 will also be considered where appropriate.

A summary of the adopted SAC is presented in Table 6.1.

Table 6.1: Summary of Adopted Soil Assessment Criteria

Analyte	Health-based Investigation Levels (mg/kg) ¹ NEHF F	Sensitive Land Use – NSW EPA (1994) (mg/kg) ²
Arsenic (total)	500	-
Cadmium	100	-
Chromium (III)	600,000	-
Chromium (VI)	500	-
Copper	5,000	-
Lead	1,500	-
Mercury (inorganic)	75	-

Analyte	Health-based Investigation Levels (mg/kg) ¹ NEHF F	Sensitive Land Use – NSW EPA (1994) (mg/kg) ²
Nickel	3,000	-
Zinc	35,000	-
Total PAHs	100	-
Benzo(a)pyrene	5	-
TPH C ₆ -C ₉	-	65
TPH C ₁₀ -C ₃₆	-	1,000
Benzene	-	1
Toluene	-	130
Ethylbenzene	-	50
Xylene	-	25
Asbestos	ND	ND

1. NSW DEC (2006) *Guidelines for the NSW Site Auditor Scheme* (2nd Edition).

2. NSW EPA (1994) *Guidelines for Assessing Service Station Sites*.

3. ND = Not Detected

7 RESULTS

7.1 Subsurface Conditions

In summary, the results of the investigation indicate that the general subsurface profile across the site comprises the following:

- Concrete, bitumen or asphalt pavement; and/or
- Fill materials, generally comprising ash fill and clayey fill, with wooden fragments and fibres in a number of boreholes across the site, with varying thicknesses ranging from 0.2m to 6.3m, with the exception of crushed sandstone and gravelly sand fill encountered in the former southern parking area at depths ranging between 0.3m and 0.85m; overlying
- Clay or silty clay, generally comprising high plasticity, pale grey, orange, red, brown and dark grey in a number of boreholes across the site, at depths ranging between 0.25m and 5.9m bgs; and/or;
- Shale, highly to extremely weathered shale, laminated, orange and grey, at depths ranging between 0.8m and 4.0m bgs.

No evidence of visible suspected asbestos containing material (ACM) was observed during soil sampling.

No visible or olfactory evidence of contamination was noted in any of the boreholes except the soil sample collected from BH1 at a depth of 1.5m. However, the PID reading obtained from this sample was 5.3ppm.

Groundwater was encountered at BH1 at 5.5m and at BH6 at 4.6m bgs at the time of drilling. No groundwater was encountered in other boreholes drilled during this investigation.

Borehole logs are presented in Appendix D.

7.2 Field Screening for VOC

Field headspace screening of soil samples was conducted with a PID to screen for the presence of VOCs.

PID readings ranged from <0.1 to 40.5ppm. These low PID readings indicate a low likelihood of significant contamination of soils with VOCs at the site. PID results are recorded against corresponding sample intervals in the borehole logs (Appendix D).

7.3 Soil Analytical Results

Analytical results for soil samples are presented in Table 1 at the end of this report and are summarised below.

7.3.1 TPH

- Concentrations of TPH C₆-C₉ were reported below laboratory LOR (<10 mg/kg) in all soil samples analysed; and
- Concentrations of TPH C₁₀-C₃₆ were below laboratory LOR (<250 mg/kg) in all soil samples submitted for analysis.

7.3.2 BTEX

Concentrations of BTEX were reported below laboratory LOR in the soils samples analysed.

7.3.3 PAH

- Concentrations of benzo(a)pyrene were reported above laboratory LOR, but below the SAC, in two soil samples collected from BH5_3.8-3.9 and BH25_0.4-0.5, at concentrations of 0.7 mg/kg and 0.8 mg/kg, respectively; and
- Total PAH concentrations were reported above laboratory LOR, but below the SAC, in two soil samples collected from BH5_3.8-3.9 and BH25_0.4-0.5, at concentrations of 15 mg/kg and 7.8 mg/kg, respectively.

7.3.4 OCP/OPP/PCB

Concentrations of OCP, OPP and PCB were reported below their respective laboratory LORs in the soil samples analysed for these parameters.

7.3.5 Metals

Concentrations of metals were reported below their respective SAC in all the soil samples analysed.

7.3.6 Asbestos

Asbestos was not detected in the soil samples submitted for analysed.

8 DISCUSSION AND CONCLUSIONS

The supplementary site history review undertaken as part of this assessment indicates that the site was part of the former Enfield Marshalling Yard since the late 1910s but the site itself has not been heavily used for railway maintenance operation. Several small buildings were observed along the western and southern portions of the site where the former uses of these buildings were unable to be established, in particular a former building located in the southern portion of the site between 1970 and 1982 and the four smaller buildings located in the southern part of the investigation area between 1994 and 2009. The existing building was constructed between 1970 and 1982. Based on the dangerous goods search results the site was used as a liquid distribution centre by Interlink Distribution Services since 1995 at the earliest. The site was subsequently occupied by Toll Holdings in and around 1999.

Based on observations made during the fieldwork, the investigation area is generally underlain by a fill layer, between about 0.2m and 6.3m thick, comprising ash and reworked clay and shale materials, where the thickness of the layer was found to be greatest in the northern section of the investigation area gradually decreasing towards the southern part of the investigation area.

Groundwater inflow was encountered within the fill layer in two of the boreholes located in the north-western section of the investigation area which is anticipated to be shallow perched water only.

Varying levels of heavy metals and PAH were reported in the soil samples analysed, but at concentrations below the SAC. ACM was not identified in the soil samples submitted for screening purposes.

The results of the field observations and laboratory analysis of selected soil samples, in which no results exceeded the site criteria indicate that, the underlying fill materials and natural clayey soils within the investigation area of the site have not been significantly impacted by current or historical site operations. Based on these findings, it is considered that the investigation area is unlikely to present a risk to users of the site in relation to soil contamination and therefore the portion of the site is suitable for continued commercial / industrial uses.

Although no intrusive investigation was undertaken in the southern portion of the site, it is considered that this section of the site should be suitable for the intended commercial / industrial uses given it was signed off by the Site Auditor.

This report should be read in conjunction with the attached ***Important Information About Your Coffey Environmental Report***.

9 REFERENCES

CH2M Hill Australia Pty Ltd (1999) Enfield Marshalling Yards, Part A – Environmental Contamination Assessment, Reference No: 101598, March 1999, Final.

Coffey Environments Australia Pty Ltd (2008) Remediation Action Plan for Known Soil Contamination – Intermodal Logistics Centre @ Enfield, Report Reference: ENVIRHOD00634AA-R002, 23 June 2009.

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Department of Land and Water Conservation (1997) 1:25,000 Botany Bay Acid Sulfate Soil Risk Map, 9130-S3, Edition 2.

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NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme, Second Edition.

NSW DECC (2009) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997.

NSW EPA (1994) Guidelines for Assessing Service Station Sites.

NSW EPA (1995) Sampling Design Guidelines.

NSW OEH (2001) Guidelines for Consultants Reporting on Contaminated Sites.

Tables

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

ENAU RHOD04419AA , 21/12/2012

Table 1
Soil Analytical Results
Baseline Contamination Assessment
Area G - Intermodal Logistics Centre Enfield

				Field ID																
				BH14 2.9-3.0	BH15 0.2-0.3	BH16 0.4-0.5	BH16 0.9-1.0	BH17 0.4-0.5	BH18 0.4-0.5	BH18 0.9-1.0	BH19 0.4-0.5	BH20 0.2-0.3	BH20 0.6-0.7	BH23 0.4-0.5	BH23 0.75-0.85	BH24 0.4-0.5	BH24 2.9-3.0	BH25 0.4-0.5		
Sample Depth				2.9-3.0	0.2-0.3	0.4-0.5	0.9-1.0	0.4-0.5	0.4-0.5	0.9-1.0	0.4-0.5	0.2-0.3	0.6-0.7	0.4-0.5	0.75-0.85	0.4-0.5	2.9-3.0	0.4-0.5		
Sample Date				8/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	9/12/2012	8/12/2012	8/12/2012	8/12/2012	
Matrix				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
Chemical Group	Chemical Name	Units	EQL	NSW EPA 1994	NEPM 1999 HIL F															
BTEX	Benzene	mg/kg	0.5	1		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Ethylbenzene	mg/kg	0.5	3.1		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Toluene	mg/kg	0.5	1.4		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	Total BTEX	mg/kg	1.5			<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5		
	Xylene (m & p)	mg/kg	1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Xylene (o)	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Metals	Xylene Total	mg/kg	1.5	14		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5		
	Arsenic	mg/kg	2		500	<2	5	5.9	10	4	7.3	10	12	2.3	4.9	9.2	6.1	2.8	16	6.8
	Cadmium	mg/kg	0.4		100	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Chromium	mg/kg	5		600,000	<5	11	<5	<5	<5	<5	14	<5	<5	<5	5.5	<5	<5	<5	<5
	Copper	mg/kg	5		5000	57	40	42	<5	7.1	15	9.7	12	9.7	7.3	15	21	7	23	30
	Lead	mg/kg	5	300	1500	23	33	14	11	12	11	16	13	8.3	7.3	6.1	10	10	14	23
OCP	Mercury	mg/kg	0.05		75	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Nickel	mg/kg	5		3000	<5	47	80	<5	<5	<5	<5	<5	<5	<5	7.6	<5	<5	<5	5.8
	Zinc	mg/kg	5		35000	59	91	72	7.3	<5	28	7.8	19	6.2	<5	35	50	<5	14	42
	4,4-DDE	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	a-BHC	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Aldrin	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
OPP	Aldrin + Dieldrin	mg/kg			50	-	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	<0.1	-	<0.1
	b-BHC	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	cis-Chlordane	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	d-BHC	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	DDD	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	DDT	mg/kg	0.2			-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2
PAH	DDT+DDE+DDD	mg/kg			1000	-	<0.3	<0.3	-	<0.3	<0.3	-	<0.3	<0.3	-	<0.3	-	<0.3	-	<0.3
	Dieldrin	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Endosulfan I	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Endosulfan II	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Endosulfan sulphate	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Endrin	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
TPH	Endrin aldehyde	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Endrin ketone	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	g-BHC (Lindane)	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Heptachlor	mg/kg	0.05		50	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Heptachlor epoxide	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Hexachlorobenzene	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
Asbestos	Methoxychlor	mg/kg	0.2			-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2
	trans-chlordane	mg/kg	0.05			-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	<0.05
	Azinophos methyl	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Chlorpyrifos	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Coumaphos	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Diazinon	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
TPH HSLs	Dichlorvos	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Dimethoate	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Disulfoton	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Ethion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Fenitrothion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Fensulfothion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
Asbestos	Fenthion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Malathion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Methyl parathion	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Mevinphos (Phosdrin)	mg/kg	0.5			-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5
	Monocrotophos	mg/kg	10</																	

Table 2
Field QA/QC Results
Baseline Contamination Assessment
Area G - Intermodal Logistics Centre Enfield

	Chemical Group	Chemical Name	Units	EQL	Field ID		RPD %	DUP 2A		RPD %	BH14 0.9-1.0		DUP 4	RPD %	BH16 0.9-1.0		DUP 6	RPD %	DUP 6A		RPD %	BH3 1.9-2.0		DUP 9	RPD %		
					Sample Depth			DUP 2			0.9-1.0				0.9-1.0				0.9-1.0			1.9-2.0					
					Sample Date			8/12/2012			9/12/2012				9/12/2012				9/12/2012			9/12/2012				9/12/2012	
					Matrix			SOIL			SOIL				SOIL				SOIL			SOIL				SOIL	
BTEX	Benzene	mg/kg	0.5	<0.5	<0.5	0	<0.2	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.2	0	<0.5	<0.5	0	<0.5				
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5				
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0	<0.5	<0.5	0	<0.5				
	Total BTEX	mg/kg	1.5	<1.5	<1.5	0	<7.7	0	<1.5	<1.5	0	<1.5	<1.5	0	<1.5	<1.5	0	<7.7	0	<1.5	<1.5	0	<1.5				
	Xylene (m & p)	mg/kg	1	<1	<1	0	<2	0	<1	<1	0	<1	<1	0	<2	0	<1	<1	0	<1	<1	0	<1				
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5				
Metals	Xylene Total	mg/kg	1.5	<1.5	<1.5	0	<3	0	<1.5	<1.5	0	<1.5	<1.5	0	<1.5	<1.5	0	<3	0	<1.5	<1.5	0	<1.5				
	Arsenic	mg/kg	2	7.9	9.1	14	16	68%	8.2	11	29	10	4.1	84	7	35%	7.4	17	79	7.9	9.1	14	16	68%			
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.5	0%	<0.4	<0.4	0	<0.4	<0.4	0	<0.5	0%	<0.4	<0.4	0	<0.5	0%	<0.4	<0.4	0	<0.4		
	Chromium	mg/kg	5	<5	<5	0	12	131%	7.3	5.7	25	<5	<5	0	15	143%	<5	<5	0	<5	<5	0	<5	<5	0	<5	
	Copper	mg/kg	5	56	33	52	20	95%	14	28	67	<5	<5	0	5	67%	28	12	80	56	33	52	20	95%			
	Lead	mg/kg	5	18	22	20	18	0%	12	24	67	11	10	10	10	10%	38	11	110	18	22	20	18	0%			
	Mercury	mg/kg	0.05	<0.05	<0.05	0	<0.1	0%	<0.05	<0.05	0	<0.05	0.05	0	<0.1	0%	0.07	<0.05	33	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
	Nickel	mg/kg	5	<5	5.5	10	4	46%	<5	<5	0	<5	<5	0	2	29%	15	6	86	<5	5.5	10	4	46%			
	Zinc	mg/kg	5	51	56	9	32	46%	14	25	56	7.3	7.8	7	4	58%	68	43	45	51	56	9	32	46%			
	OCP	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05
a-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Aldrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Aldrin + Dieldrin		mg/kg	0.05	<0.1	<0.1	0	<0.2	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	-	-	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	
b-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
cis-Chlordane		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
d-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
DDD		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
DDT		mg/kg	0.2	<0.2	<0.2	0	<0.1	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	-	-	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	
DDT+DDE+DDD		mg/kg	0.05	<0.3	<0.3	0	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	-	-	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	
Dieldrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endosulfan I		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endosulfan II		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endosulfan sulphate		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endrin aldehyde		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Endrin ketone		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
g-BHC (Lindane)		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Heptachlor		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Heptachlor epoxide		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Hexachlorobenzene		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	
Methoxychlor		mg/kg	0.2	<0.2	<0.2	0	<0.1	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	-	-	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	
OPP		trans-chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	<0.05	0	<0.05
	Azinophos methyl	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Chlorpyrifos	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Coumaphos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Diazinon	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Dimethoate	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Disulfoton	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Ethionoprop	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Fenitrothion	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Fensulfothion</																										

Table 2
Field QA/QC Results
Baseline Contamination Assessment
Area G - Intermodal Logistics Centre Enfield

	Chemical Group	Chemical Name	Units	EQL	Field ID		RPD %	DUP 2A		RPD %	BH14 0.9-1.0		RPD %	BH16 0.9-1.0		RPD %	DUP 6A		RPD %	BH3 1.9-2.0		RPD %
					Sample Depth			DUP 2			0.9-1.0			0.9-1.0			0.9-1.0			1.9-2.0		
					Sample Date			8/12/2012			9/12/2012			9/12/2012			9/12/2012			9/12/2012		
					Matrix			SOIL			SOIL			SOIL			SOIL			SOIL		
BTEX	Benzene	mg/kg	0.5	<0.5	<0.5	0	<0.2	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5		
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	
	Total BTEX	mg/kg	1.5	<1.5	<1.5	0	<7.7	0	<1.5	<1.5	0	<1.5	<1.5	0	<7.7	0	<1.5	<1.5	0	<1.5		
	Xylene (m & p)	mg/kg	1	<1	<1	0	<2	0	<1	<1	0	<1	<1	0	<2	0	<1	<1	0	<1		
	Xylene (o)	mg/kg	0.5	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5	<0.5	0	<1	0	<0.5	<0.5	0	<0.5		
Metals	Xylene Total	mg/kg	1.5	<1.5	<1.5	0	<3	0	<1.5	<1.5	0	<1.5	<1.5	0	<3	0	<1.5	<1.5	0	<1.5		
	Arsenic	mg/kg	2	7.9	9.1	14	16	68%	8.2	11	29	10	4.1	84	7	35%	7.4	17	79	79		
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.5	0%	<0.4	<0.4	0	<0.4	<0.4	0	<0.5	0%	<0.4	<0.4	0	<0.4		
	Chromium	mg/kg	5	<5	<5	0	12	131%	7.3	5.7	25	<5	<5	0	15	143%	<5	<5	0	<5		
	Copper	mg/kg	5	56	33	52	20	95%	14	28	67	<5	<5	0	5	67%	28	12	80	80		
	Lead	mg/kg	5	18	22	20	18	0%	12	24	67	11	10	10	10	10%	38	11	110	110		
	Mercury	mg/kg	0.05	<0.05	<0.05	0	<0.1	0%	<0.05	<0.05	0	<0.05	0.05	0	<0.1	0%	0.07	<0.05	33	33		
	Nickel	mg/kg	5	<5	5.5	10	4	46%	<5	<5	0	<5	<5	0	2	29%	15	6	86	86		
	Zinc	mg/kg	5	51	56	9	32	46%	14	25	56	7.3	7.8	7	4	58%	68	43	45	45		
	OCP	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05	
a-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Aldrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Aldrin + Dieldrin		mg/kg		<0.1	<0.1	0	<0.2	0	<0.1	<0.1	0	<0.1	<0.1	0	-	-	<0.1	<0.1	0	<0.1		
b-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
cis-Chlordane		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
d-BHC		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
DDD		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
DDT		mg/kg	0.2	<0.2	<0.2	0	<0.1	0	<0.2	<0.2	0	<0.2	<0.2	0	-	-	<0.2	<0.2	0	<0.2		
DDT+DDE+DDD		mg/kg		<0.3	<0.3	0	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	-	-	<0.3	<0.3	0	<0.3		
Dieldrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endosulfan I		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endosulfan II		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endosulfan sulphate		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endrin		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endrin aldehyde		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Endrin ketone		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
g-BHC (Lindane)		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Heptachlor		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Heptachlor epoxide		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Hexachlorobenzene		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
Methoxychlor		mg/kg	0.2	<0.2	<0.2	0	<0.1	0	<0.2	<0.2	0	<0.2	<0.2	0	-	-	<0.2	<0.2	0	<0.2		
trans-chlordane		mg/kg	0.05	<0.05	<0.05	0	<0.1	0	<0.05	<0.05	0	<0.05	<0.05	0	-	-	<0.05	<0.05	0	<0.05		
OPP	Azinophos methyl	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Chlorpyrifos	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Coumaphos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Diazinon	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Dimethoate	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Disulfoton	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Ethionop	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Fenitrothion	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Fensulfothion	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Fenthion	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Malathion	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Methyl parathion	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Mevinphos (Phosdrin)	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Monocrotophos	mg/kg	10	<10	<10	0	-	0	<10	<10	0	<10	<10	0	-	-	<10	<10	0	<10		
	Parathion	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Phorate	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Prothiofos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Ronnel	mg/kg	0.5	<0.5	<0.5	0	<0.1	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Stirophos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Trichloronate	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		
	Demeton (total)	mg/kg	1	<1	<1	0	<0.1	0	<1	<1	0	<1	<1	0	-	-	<1	<1	0	<1		
	Profenofos	mg/kg	0.5	<0.5	<0.5	0	-	0	<0.5	<0.5	0	<0.5	<0.5	0	-	-	<0.5	<0.5	0	<0.5		

Table 3
Rinsate Blank QA/QC Results
Baseline Contamination Assessment
Area G - Intermodal Logistics Centre Enfield

Field ID	RB1	RB2
Type	RINSATE	RINSATE
Sample Date	8/12/2012	9/12/2012
Matrix	WATER	WATER

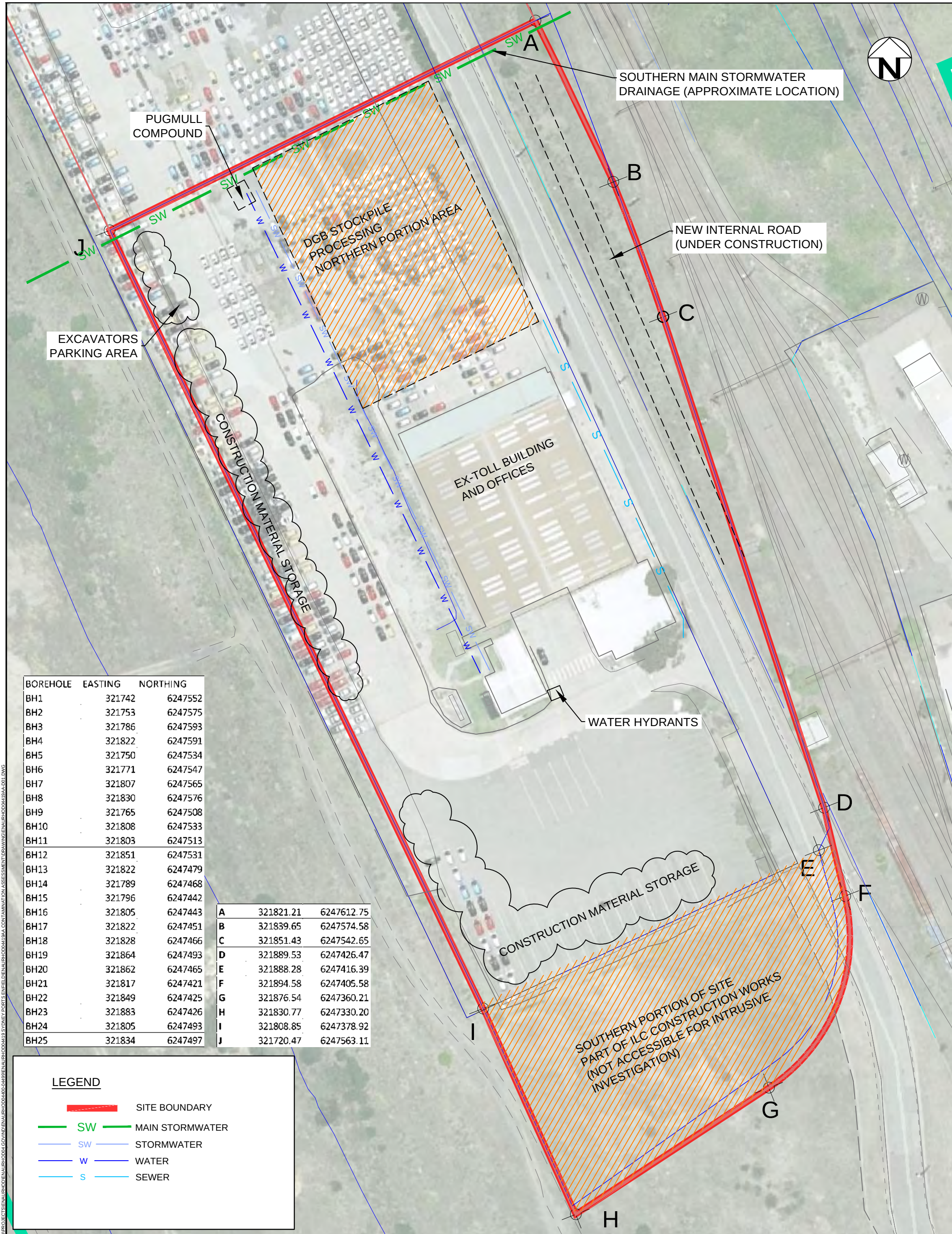
Chemical Group	Chemical Name	Units	EQL		
BTX	Benzene	ug/L	1	<1	<1
	Ethylbenzene	ug/L	1	<1	<1
	Toluene	ug/L	1	<1	<1
	Total BTX	mg/L	0.01	<0.01	<0.01
	Xylene (m & p)	ug/L	2	<2	<2
	Xylene (o)	ug/L	1	<1	<1
	Xylene Total	ug/L	3	<3	<3
Metals	Arsenic (Filtered)	mg/L	0.001	<0.001	<0.001
	Cadmium (Filtered)	mg/L	0.0001	<0.0001	<0.0001
	Chromium (Filtered)	mg/L	0.001	<0.001	<0.001
	Copper (Filtered)	mg/L	0.001	<0.001	<0.001
	Lead (Filtered)	mg/L	0.001	<0.001	<0.001
	Mercury (Filtered)	mg/L	0.0001	<0.0001	<0.0001
	Nickel (Filtered)	mg/L	0.001	<0.001	<0.001
OCP	Zinc (Filtered)	mg/L	0.005	<0.005	<0.005
	4,4-DDE	ug/L	0.5	<0.5	<0.5
	α-BHC	ug/L	0.5	<0.5	<0.5
	Aldrin	ug/L	0.5	<0.5	<0.5
	β-BHC	ug/L	0.5	<0.5	<0.5
	cis-Chlordane	ug/L	0.5	<0.5	<0.5
	δ-BHC	ug/L	0.5	<0.5	<0.5
	DDD	ug/L	0.5	<0.5	<0.5
	DDT	ug/L	2	<2	<2
	Dieldrin	ug/L	0.5	<0.5	<0.5
	Endosulfan I	ug/L	0.5	<0.5	<0.5
	Endosulfan II	ug/L	0.5	<0.5	<0.5
	Endosulfan sulphate	ug/L	0.5	<0.5	<0.5
	Endrin	ug/L	0.5	<0.5	<0.5
	Endrin aldehyde	ug/L	0.5	<0.5	<0.5
	Endrin ketone	ug/L	0.5	<0.5	<0.5
	γ-BHC (Lindane)	ug/L	0.5	<0.5	<0.5
	Heptachlor	ug/L	0.5	<0.5	<0.5
	Heptachlor epoxide	ug/L	0.5	<0.5	<0.5
	Hexachlorobenzene	ug/L	0.5	<0.5	<0.5
	Methoxychlor	ug/L	2	<2	<2
	trans-chlordane	ug/L	0.5	<0.5	<0.5
OPP	Azinophos methyl	ug/L	2	<2	<2
	Chlorpyrifos	ug/L	2	<2	<2
	Coumaphos	ug/L	2	<2	<2
	Diazinon	ug/L	2	<2	<2
	Dichlorvos	ug/L	2	<2	<2
	Dimethoate	ug/L	2	<2	<2
	Disulfoton	ug/L	2	<2	<2
	Ethoprop	ug/L	2	<2	<2
	Fenitrothion	ug/L	2	<2	<2
	Fensulfthion	ug/L	2	<2	<2
	Fenthion	ug/L	2	<2	<2
	Malathion	ug/L	2	<2	<2
	Methyl parathion	ug/L	2	<2	<2
	Mevinphos (Phosdrin)	ug/L	2	<2	<2
	Monocrotophos	ug/L	20	<20	<20
	Parathion	ug/L	2	<2	<2
	Phorate	ug/L	2	<2	<2
	Prothiofos	ug/L	2	<2	<2
	Ronnel	ug/L	2	<2	<2
	Sirophos	ug/L	2	<2	<2
	Trichloronate	ug/L	2	<2	<2
	Demeton (total)	ug/L	4	<4	<4
	Profenofos	ug/L	2	<2	<2
PAH	Acenaphthene	ug/L	1	<1	<1
	Acenaphthylene	ug/L	1	<1	<1
	Anthracene	ug/L	1	<1	<1
	Benzo(a)anthracene	ug/L	1	<1	<1
	Benzo(a)pyrene	ug/L	1	<1	<1
	Benzo(b)&(k)fluoranthene	ug/L	2	<2	<2
	Benzo(g,h,i)perylene	ug/L	1	<1	<1
	Chrysene	ug/L	1	<1	<1
	Dibenz(a,h)anthracene	ug/L	1	<1	<1
	Fluoranthene	ug/L	1	<1	<1
	Fluorene	ug/L	1	<1	<1
	Indeno(1,2,3-c,d)pyrene	ug/L	1	<1	<1
	Naphthalene	ug/L	1	<1	<1
	Phenanthrene	ug/L	1	<1	<1
	Pyrene	ug/L	1	<1	<1
Polychlorinated Biphenyls	Total PAHs	ug/L	2	<2	<2
	Aroclor 1016	ug/L	5	<5	<5
	Aroclor 1232	ug/L	5	<5	<5
	Aroclor 1242	ug/L	5	<5	<5
	Aroclor 1248	ug/L	5	<5	<5
	Aroclor 1254	ug/L	5	<5	<5
	Aroclor 1260	ug/L	5	<5	<5
TPH	PCBs (Sum of total)	ug/L	5	<5	<5
	C6 - C9	ug/L	20	<20	<20
	C10 - C14	ug/L	50	<50	<50
	C15 - C28	ug/L	100	<100	<100
	C29 - C36	ug/L	100	<100	<100
	C10 - C36 (Sum of total)	ug/L	100	<100	<100
	C6 - C10	mg/L	0.02	<0.02	<0.02
	C10 - C16	mg/L	0.05	<0.05	<0.05
	C16 - C34	mg/L	0.1	<0.1	<0.1
	C34 - C40	mg/L	0.1	<0.1	<0.1

Table 4
Trip Blank and Trip Spike QAQC Results
Baseline Contamination Assessment
Area G - Intermodal Logistics Centre Enfield

			Field ID	TS	TB
			Sample Date	6/12/2012	6/12/2012
			Matrix	SOIL	SOIL
Chemical Group	Chemical Name	Units	EQL		
BTEX	Benzene	mg/kg	0.5	84%	<0.5
	Ethylbenzene	mg/kg	0.5	98%	<0.5
	Toluene	mg/kg	0.5	93%	<0.5
	Total BTEX	mg/kg	1.5	96%	<1.5
	Xylene (m & p)	mg/kg	1	99%	<1
	Xylene (o)	mg/kg	0.5	100%	<0.5
	Xylene Total	mg/kg	1.5	99%	<1.5
TPH	C6 - C9	mg/kg	10	83%	<10

Figures

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**



BOREHOLE	EASTING	NORTHING
BH1	321742	6247552
BH2	321753	6247575
BH3	321786	6247593
BH4	321822	6247591
BH5	321750	6247534
BH6	321771	6247547
BH7	321807	6247565
BH8	321830	6247576
BH9	321765	6247508
BH10	321808	6247533
BH11	321803	6247513
BH12	321851	6247531
BH13	321822	6247479
BH14	321789	6247468
BH15	321796	6247442
BH16	321805	6247443
BH17	321822	6247451
BH18	321828	6247466
BH19	321864	6247493
BH20	321862	6247465
BH21	321817	6247421
BH22	321849	6247425
BH23	321883	6247426
BH24	321805	6247493
BH25	321834	6247497

A	321821.21	6247612.75
B	321839.65	6247574.58
C	321851.43	6247542.65
D	321889.53	6247426.47
E	321888.28	6247416.39
F	321894.58	6247405.58
G	321876.54	6247360.21
H	321830.77	6247330.20
I	321808.85	6247378.92
J	321720.47	6247563.11

LEGEND

SW

SITE BOUNDARY

SW

MAIN STORMWATER

SW

STORMWATER

W

WATER

S

SEWER

PLOT DATE: 30/01/2013 2:24:55 PM DWG FILE: I:\ENV\PROJECTS\ENAU\RHOD04419AA\CONTAMINATION ASSESSMENT\DRAWING\RHOD04419AA-D01.DWG

AERIAL IMAGE SOURCE: GOOGLE EARTH PRO 6.6.2.6613
AERIAL IMAGE ©: 2012 SINCLAIR KNIGHT MERZ
2012 WHEREIS SENSIS PTY LTD



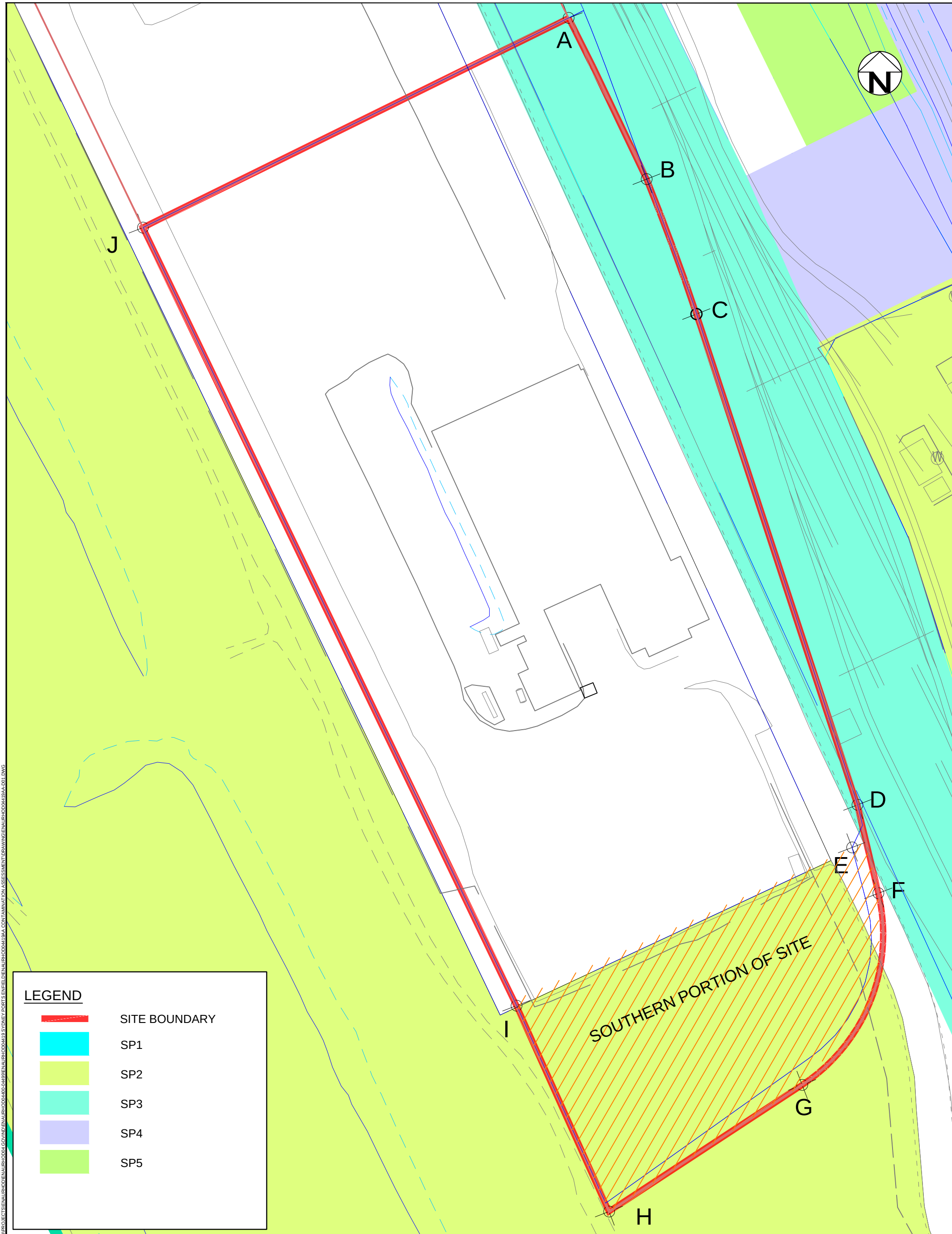
Scale (metres) 1:800

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approved	SG
date	09/01/13
scale	AS SHOWN
original size	A3



SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

client:	SYDNEY PORTS CORPORATION	
project:	BASELINE CONTAMINATION ASSESSMENT, INTERMODAL LOGISTICS CENTRE, COSGROVE ROAD, ENFIELD, NSW	
title:	SITE LAYOUT PLAN	
project no:	ENAU RHOD04419AA-D01	figure no: 2



LEGEND

SITE BOUNDARY

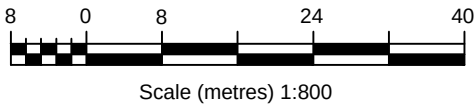
SP1

SP2

SP3

SP4

SP5



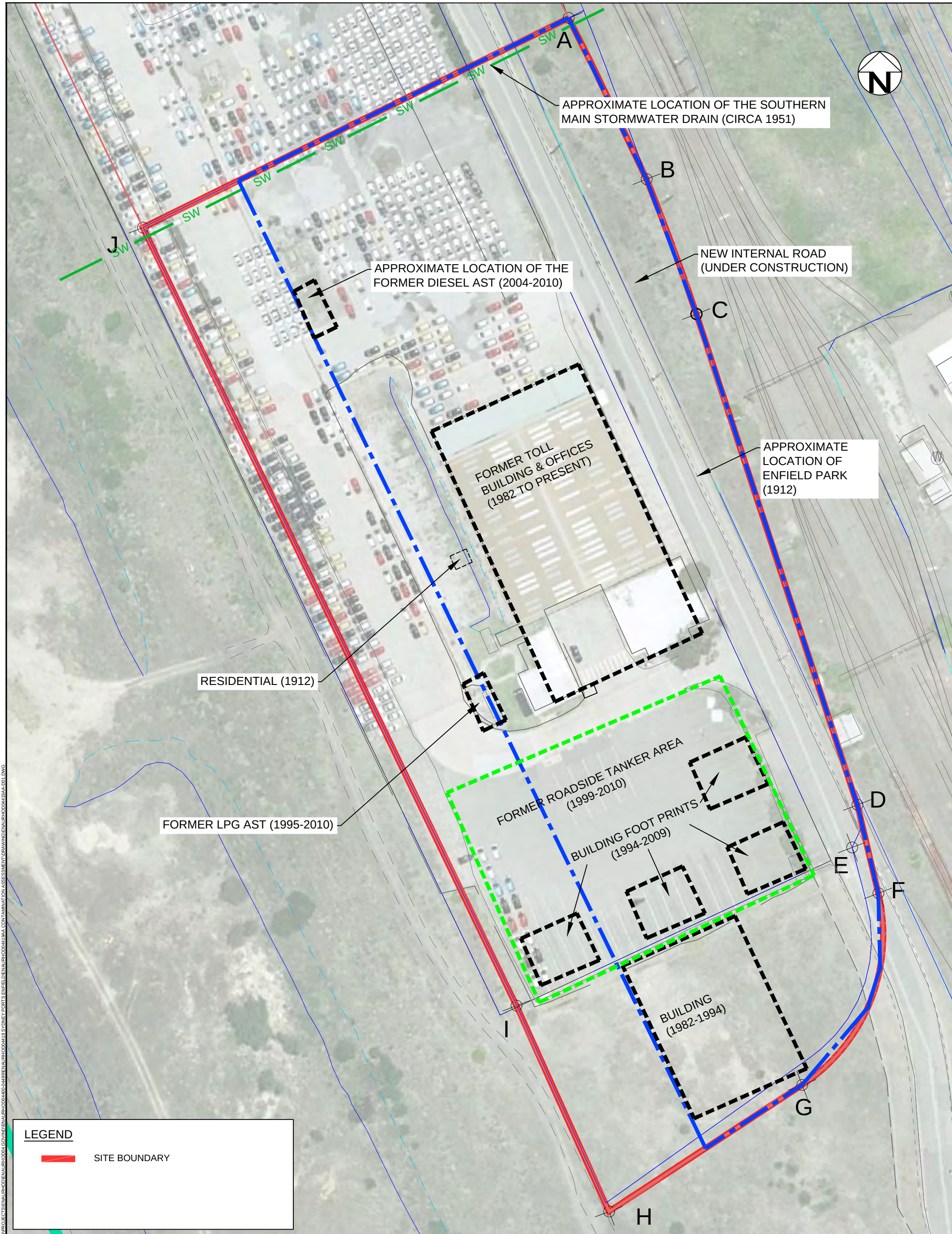
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approved	SG
date	09/01/13
scale	AS SHOWN
original size	A3

coffey

environments

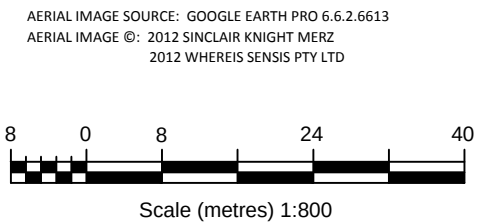
SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

client:	SYDNEY PORTS CORPORATION	
project:	BASELINE CONTAMINATION ASSESSMENT, INTERMODAL LOGISTICS CENTRE, COSGROVE ROAD, ENFIELD, NSW	
title:	REMEDIATION ACTION PLAN 2008	
project no:	ENAU RHOD04419AA-D01	figure no: 3



LEGEND

SITE BOUNDARY



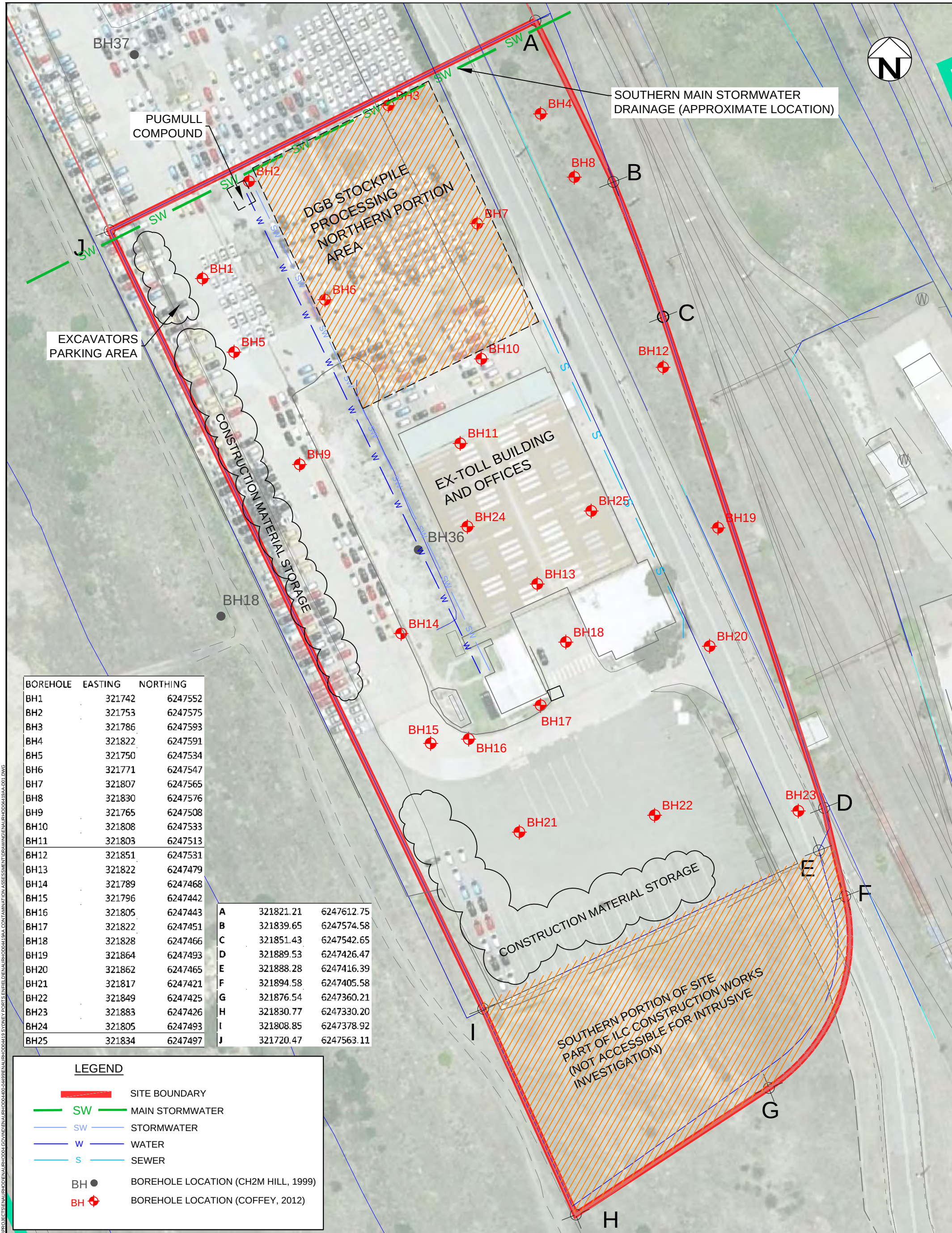
drawn	MV
approved	SG
date	09/01/13
scale	AS SHOWN
original size	A3

coffey

environments

SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

client:	SYDNEY PORTS CORPORATION	
project:	BASELINE CONTAMINATION ASSESSMENT, INTERMODAL LOGISTICS CENTRE, COSGROVE ROAD, ENFIELD, NSW	
title:	HISTORICAL DEVELOPMENT PLAN	
project no:	ENAU RHOD04419AA-D01	figure no: 4



BOREHOLE	EASTING	NORTHING
BH1	321742	6247552
BH2	321753	6247575
BH3	321786	6247593
BH4	321822	6247591
BH5	321750	6247534
BH6	321771	6247547
BH7	321807	6247565
BH8	321830	6247576
BH9	321765	6247508
BH10	321808	6247533
BH11	321803	6247513
BH12	321851	6247531
BH13	321822	6247479
BH14	321789	6247468
BH15	321796	6247442
BH16	321805	6247443
BH17	321822	6247451
BH18	321828	6247466
BH19	321864	6247493
BH20	321862	6247465
BH21	321817	6247421
BH22	321849	6247425
BH23	321883	6247426
BH24	321805	6247493
BH25	321834	6247497

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E	321888.28	6247416.39
F	321894.58	6247405.58
G	321876.54	6247360.21
H	321830.77	6247330.20
I	321808.85	6247378.92
J	321720.47	6247563.11

LEGEND

SW

MAIN STORMWATER

SW

STORMWATER

W

WATER

S

SEWER

BH ●

BOREHOLE LOCATION (CH2M HILL, 1999)

BH ●

BOREHOLE LOCATION (COFFEY, 2012)

Appendix A
Proposed Subdivision Plan (October 2012,
Issue 8)

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

SIGNATURES, SEALS and STATEMENTS of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

DWG: 120225SUB-7
PRINTED 4 OCT 2012
(ISSUE 8)

Registered:

Title System:

Purpose:

PLAN OF PROPOSED SUBDIVISION OF
 LOT 2 DP 1006861, LOT 101
 DP 1001498 & LOT 14 DP 1007302

LGA: STRATHFIELD

Locality: ENFIELD

Parish: BANKSTOWN

County: CUMBERLAND

Use PLAN FORM 6A
 for additional certificates, signatures, seals and statements

Crown Lands NSW/Western Lands Office Approval

I.....in approving this plan certify
 (Authorised Officer)
 that all necessary approvals in regard to the allocation of the land shown
 herein have been given

Signature:.....
 Date:.....
 File Number:.....
 Office:.....

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and
 Assessment Act 1979 have been satisfied in relation to:

the proposed..... set out herein
 (insert 'subdivision' or 'new road')

* Authorised Person/General Manager/Accredited Certifier

Consent Authority:
 Date of Endorsement:
 Accreditation no:
 Subdivision Certificate no:
 File no:

* Delete whichever is inapplicable.

Surveying and Spatial Information Regulation, 2006

I, TASY MORAITIS

of DENNY LINKER & Co., Level 5, 17 RANDLE ST, SURRY HILLS. 2010
 a surveyor registered under the *Surveying and Spatial Information Act,*
 2002, certify that the survey represented in this plan is accurate, has
 been made in accordance with the *Surveying and Spatial Information*
Regulation, 2006 and was completed
 on:.....

The survey relates to

.....

(specify the land actually surveyed or specify any land shown in the plan
 that is not the subject of the survey)

SignatureDated:.....
 Surveyor registered under the *Surveying and Spatial Information Act, 2002*

Datum Line:.....

Type: Urban/Rural

Plans used in the preparation of survey/compilation

(if insufficient space use Plan Form 6A annexure sheet)

SURVEYORS REFERENCE: 120225

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheet(s)

PLAN OF PROPOSED SUBDIVISION OF
LOT 2 DP 1006861, LOT 101
DP 1001498 & LOT 14 DP 1007302

DWG: 120225SUB-7
PRINTED 4 OCT 2012
(ISSUE 8)

*

Registered:

*

* OFFICE USE ONLY

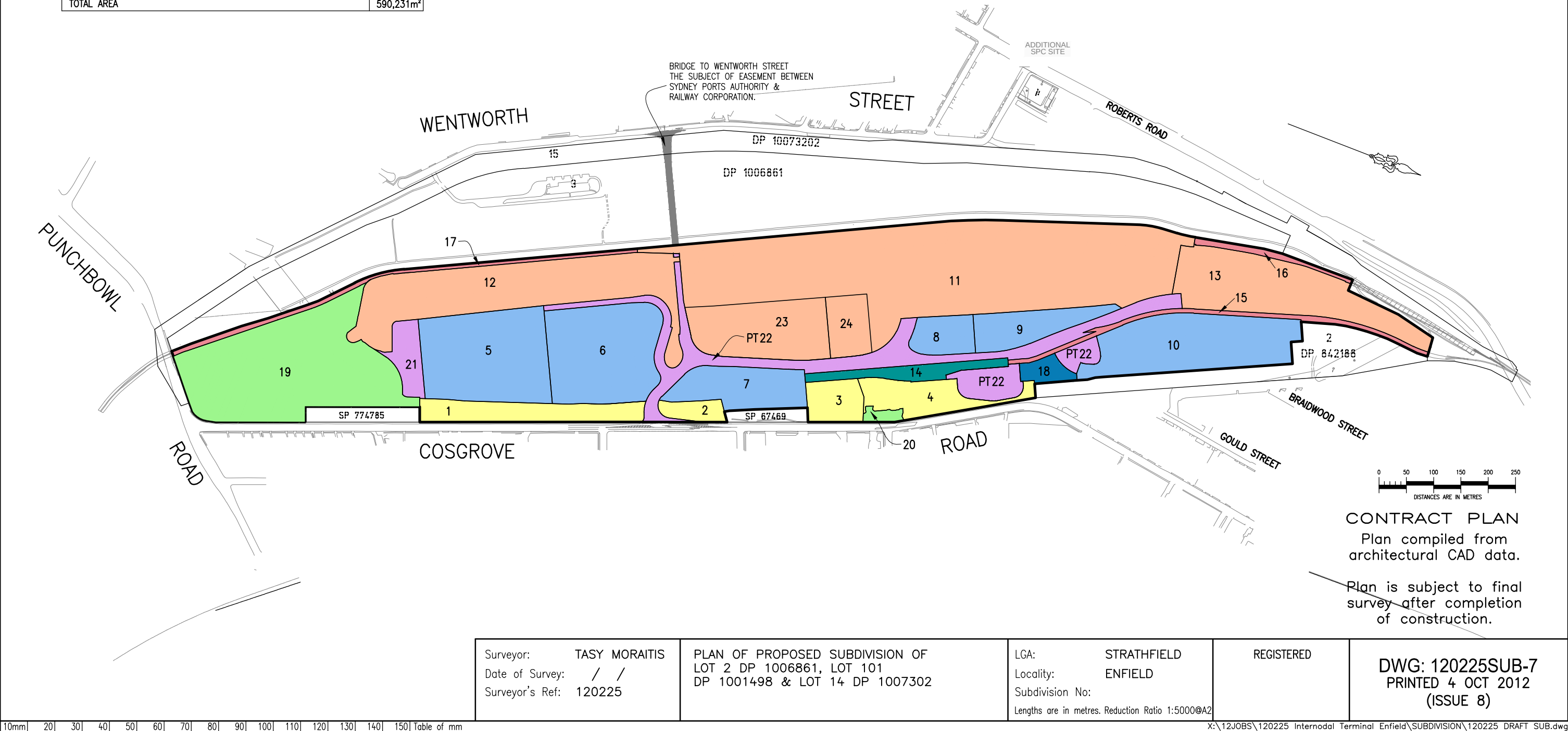
Subdivision Certificate No.:

Date of Endorsement:

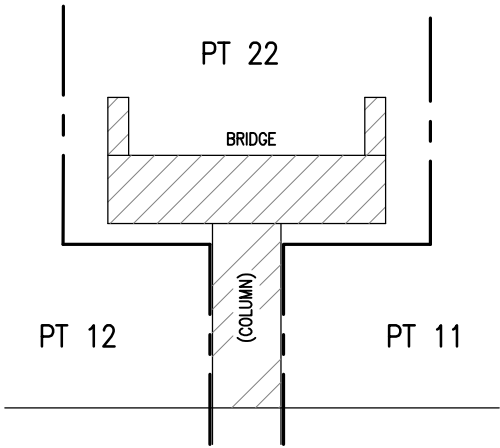
SURVEYORS REFERENCE: 120225

SCHEDULE OF PROPOSED LOTS		
LOT	DESCRIPTION	AREA
1	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	14,982m ²
2	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	4,185m ²
3	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	7,763m ²
4	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	13,058m ²
5	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	37,767m ²
6	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	35,587m ²
7	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	16,987m ²
8	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	7,860m ²
9	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	12,606m ²
10	LEASEHOLD TENANT LOT - WAREHOUSE DISTRIBUTION	35,755m ²
11	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL AREA	134,216m ²
12	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL AREA	54,070m ²
13	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL AREA	38,293m ²
14	EXISTING LEASEHOLD TENANT LOT - WHEEL LATHE WORKSHOP	7,478m ²
15	SYDNEY PORTS FREEHOLD LOT - RAIL TRACKS	6,843m ²
16	SYDNEY PORTS FREEHOLD LOT - RAIL TRACKS	3,044m ²
17	SYDNEY PORTS FREEHOLD LOT - RAIL TRACKS	6,878m ²
18	SYDNEY PORTS FREEHOLD LOT - EXISTING ADMIN BUILDINGS	3,734m ²
19	SYDNEY PORTS FREEHOLD LOT - RESIDUAL LOT	63,783m ²
20	SYDNEY PORTS FREEHOLD LOT - VACANT LANDSCAPE	1,647m ²
21	SYDNEY PORTS FREEHOLD LOT - INFRASTRUCTURE LOT	6,831m ²
22	SYDNEY PORTS FREEHOLD LOT - ROADWAYS & INFRASTRUCTURE LOT	42,911m ²
23	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL STORAGE AREA G	25,472m ²
24	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL SERVICES AREA	8,481m ²
TOTAL AREA		590,231m ²

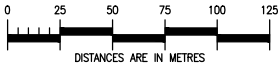
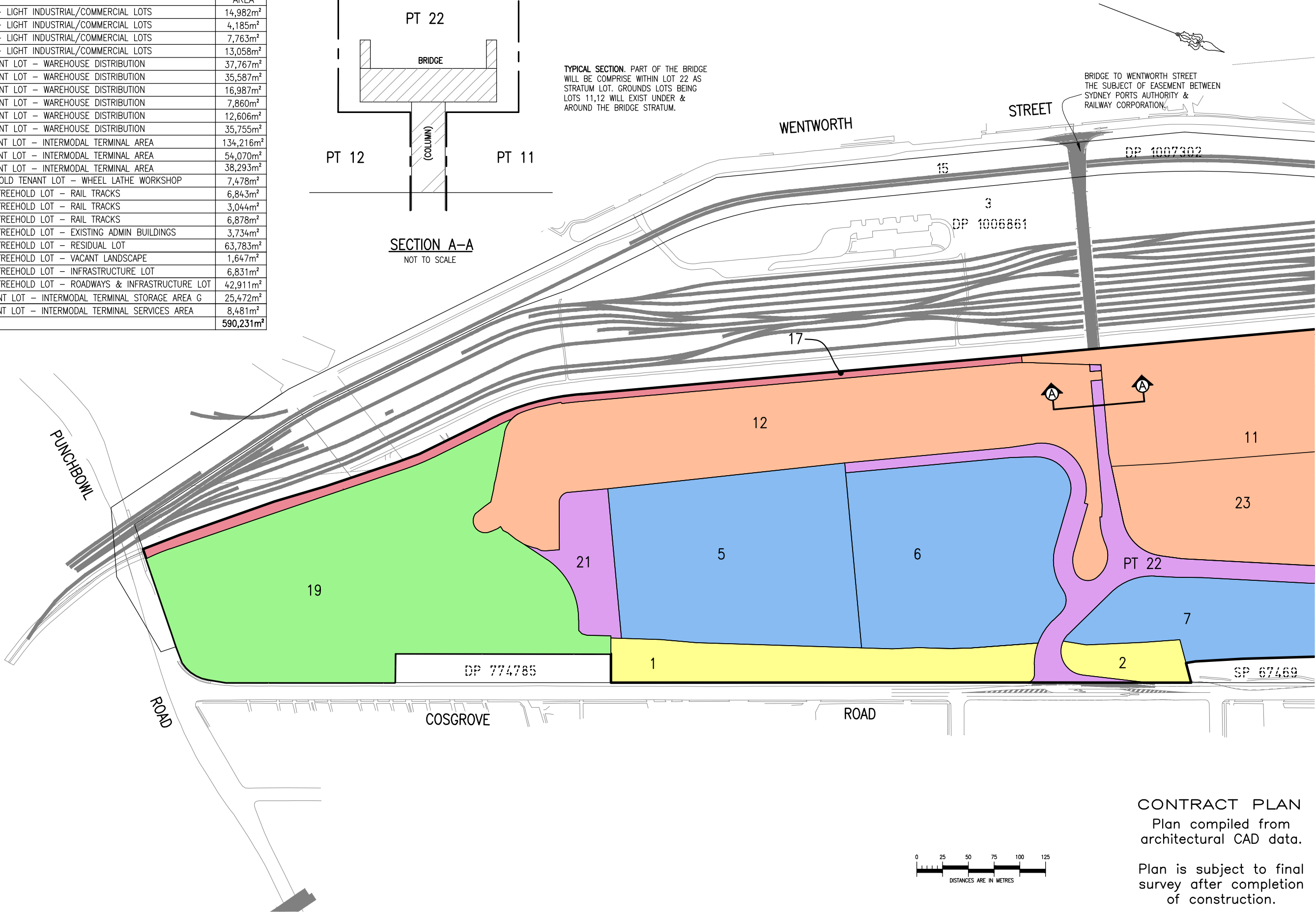
PLAN OF PROPOSED SUBDIVISION OF THE
INTERMODAL LOGISTICS CENTRE
COSGROVE ROAD, ENFIELD



SCHEDULE OF PROPOSED LOTS		
LOT	DESCRIPTION	AREA
1	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	14,982m ²
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17	SYDNEY PORTS FREEHOLD LOT - RAIL TRACKS	6,878m ²
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20	SYDNEY PORTS FREEHOLD LOT - VACANT LANDSCAPE	1,647m ²
21	SYDNEY PORTS FREEHOLD LOT - INFRASTRUCTURE LOT	6,831m ²
22	SYDNEY PORTS FREEHOLD LOT - ROADWAYS & INFRASTRUCTURE LOT	42,911m ²
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TOTAL AREA		590,231m ²



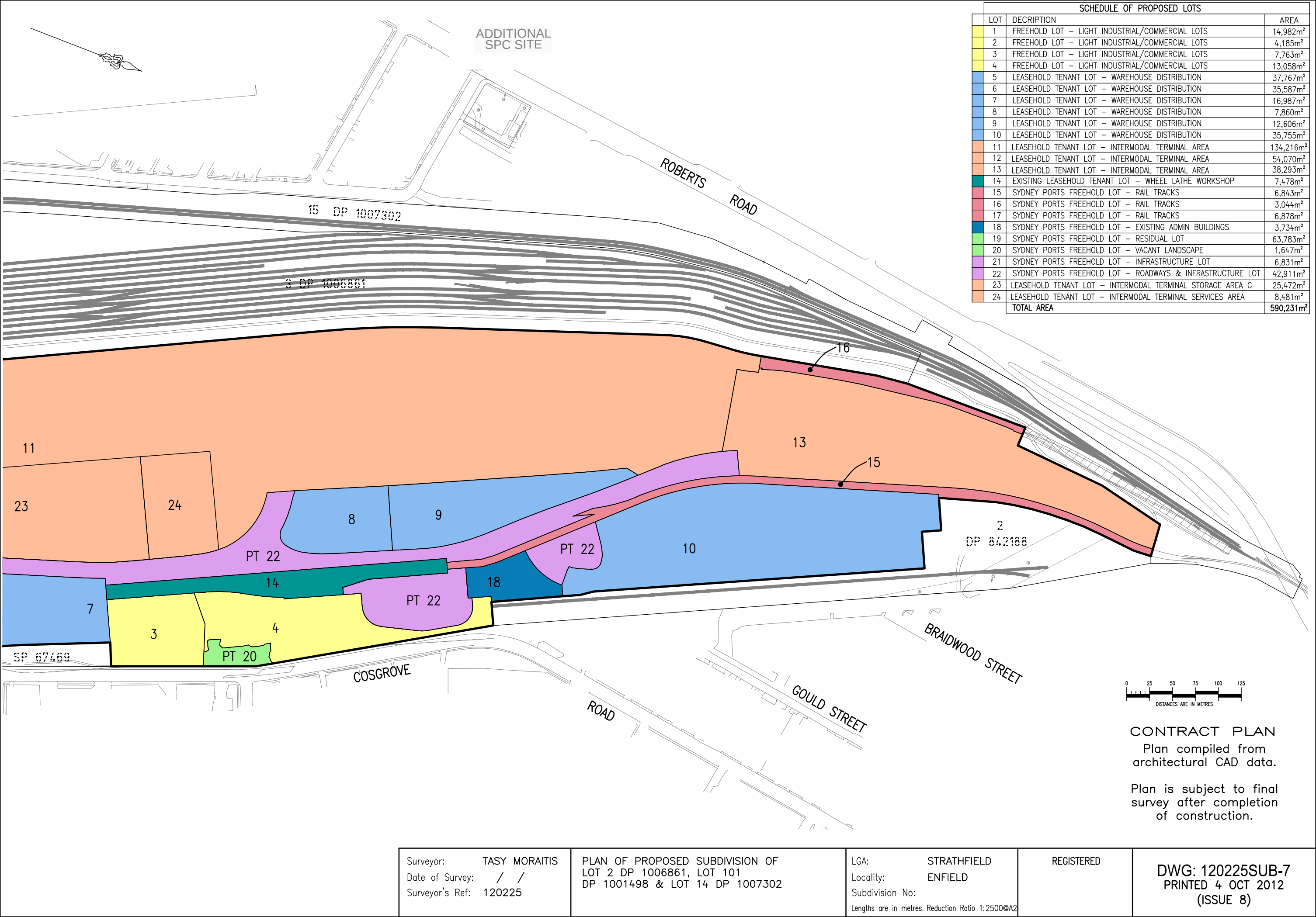
TYPICAL SECTION. PART OF THE BRIDGE WILL BE COMPRISE WITHIN LOT 22 AS STRATUM LOT. GROUNDS LOTS BEING LOTS 11,12 WILL EXIST UNDER & AROUND THE BRIDGE STRATUM.



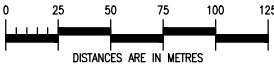
CONTRACT PLAN
Plan compiled from
architectural CAD data.

Plan is subject to final
survey after completion
of construction.

Surveyor: TASY MORAITIS Date of Survey: / / Surveyor's Ref: 120225	PLAN OF PROPOSED SUBDIVISION OF LOT 2 DP 1006861, LOT 101 DP 1001498 & LOT 14 DP 1007302	LGA: STRATHFIELD Locality: ENFIELD Subdivision No: Lengths are in metres. Reduction Ratio 1:2500@A2	REGISTERED	DWG: 120225SUB-7 PRINTED 4 OCT 2012 (ISSUE 8)
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SCHEDULE OF PROPOSED LOTS		
LOT	DECRPTION	AREA
1	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	14,982m ²
2	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	4,185m ²
3	FREEHOLD LOT - LIGHT INDUSTRIAL/COMMERCIAL LOTS	7,763m ²
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23	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL STORAGE AREA G	25,472m ²
24	LEASEHOLD TENANT LOT - INTERMODAL TERMINAL SERVICES AREA	8,481m ²
TOTAL AREA		590,231m ²



CONTRACT PLAN

Plan compiled from
architectural CAD data.

Plan is subject to final
survey after completion
of construction.

Surveyor: TASY MORAITIS Date of Survey: / / Surveyor's Ref: 120225	PLAN OF PROPOSED SUBDIVISION OF LOT 2 DP 1006861, LOT 101 DP 1001498 & LOT 14 DP 1007302	LGA: STRATHFIELD Locality: ENFIELD Subdivision No: Lengths are in metres. Reduction Ratio 1:2500@A2	REGISTERED	DWG: 120225SUB-7 PRINTED 4 OCT 2012 (ISSUE 8)
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Appendix B

WorkCover NSW Dangerous Goods Record

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

Our Ref: D12/195277
Your Ref: Fiona Wong

21 December 2012

Attention: Fiona Wong
Coffey Environments
Level 19 Citadel Tower B
799 Pacific Hwy
Chatswood NSW 2067

Dear Ms Wong,

RE SITE: Cosgrove Rd Strathfield South NSW

I refer to your site search request received by WorkCover NSW on 10 December 2012 requesting information on licences to keep dangerous goods for the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licences 35/030273 & 35/037732 relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID).

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

Yours Sincerely



Brent Jones
Senior Licensing Officer
Dangerous Goods Notification Team

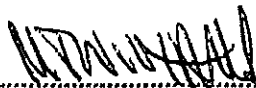
WorkCover. **Watching out for you.**

Licence No. 35/030273

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION
THEREUNDER

DECLARATION: Please renew licence number 35/030273 to 29/07/2005. I confirm that all the licence details shown below are correct (amend if necessary).



(Signature)

for: TOLL TRANSPORT PTY LIMITED

MICHAEL WILLIAMS

(Please print name)

2-9-2004

(Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO:

WorkCover New South Wales
Dangerous Goods Licensing Section
LOCKED BAG 2906
LISAROW NSW 2252

Enquiries:ph (02) 43215500
fax (02) 92875500

Details of licence on 11 June 2004

Licence Number 35/030273

Expiry Date 29/07/2004

Licensee TOLL TRANSPORT PTY LIMITED ACN 006 604 191 TOLL SPD

Postal Address: TOLL SPD PO BOX 256 ENFIELD NSW 2136

Licensee Contact LOU LAZZARI Ph. 02 9642 4264 Fax. 02 9642 4146

Premises Licensed to Keep Dangerous Goods IN RAIL YARD
TOLL TRANSPORT PTY LIMITED TOLL SPD
COSGROVE RD ENFIELD 2136

Nature of Site SERVICES TO ROAD TRANSPORT N.E.C.

Major Supplier of Dangerous Goods KLEENHEAT

Emergency Contact for this Site IAN ACKERLEY (0419 405 606) Ph. 02 9642 4264

Site staffing 14 HOURS 5 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
2	ABOVE-GROUND TANK	Class C1	9000 L
	UN 00C1 DIESEL		9000 L
3	CYLINDER STORE	Class 2.1	7500 L
	UN 1075 PETROLEUM GASES, LIQUEFIED		6690

Application for Licence to Keep Dangerous Goods



Application for ☒ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

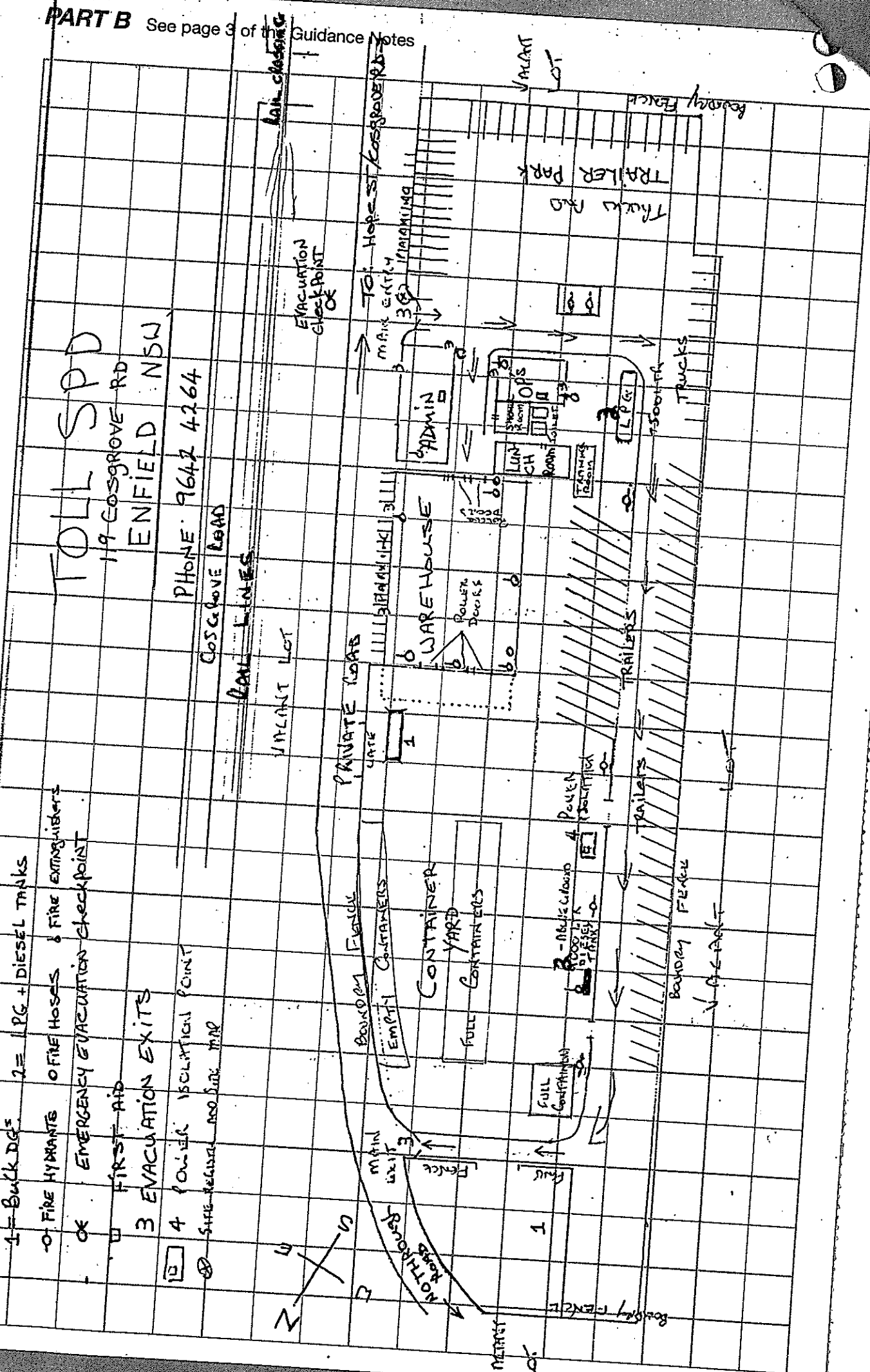
PART A - Applicant and site information See page 2 of Guidance Notes

1 Name of applicant		ACQ	
Tell 3PD		31004404141	
2 Postal address of applicant		Suburb/Town	Postcode
P.O. Box 156 ENFIELD		ENFIELD	2136
3 Trading name or site occupier's name			
Tell Transport Hired T/as Tell 3PD			
4 Contact for licence inquiries		Name	
Phone	Fax	Name	
01 9642 4244	01 9642 4146	Lee LAURIE	
5 Previous licence number (if known)		35/ N/A 030 237	
6 Previous occupier (if known)		N/A	
7 Site to be licensed			
No	Street		
1	Cockle Rd		
Suburb/Town		Postcode	
ENFIELD		2136	
8 Main business of site			
Transport Dept			
9 Site staffing: Hours per day		Days per week	
14		5	
10 Site emergency contact			
Phone		Name	
Mobile: 0414 401 604 Fax: 01 9642 4244		Iain ROBERTS	
11 Major supplier of dangerous goods			
WELLSHEIM GAS			
12 If a new site or for amendments to depots - see page 9 of Guidance Notes			
Print stamped by:		Date stamped	
Name of Accredited Consultant		Date stamped	
ALAN GILBERT WELLSHEIM GAS		29.3.2000	
I certify that the details in this application (including any accompanying computer disk) are correct and honest and licensable quantities of dangerous goods kept on the premises			
13 Signature of applicant		Printed name	Date
		Lee LAURIE	13-02-01

Please send your application, marked CONFIDENTIAL, to: Dangerous Goods Licensing,
WorkCover NSW, Level 3, GPO Box 5384, SYDNEY NSW 2001

Please carefully read the instructions on page 3 of the Guidance Notes before sketching the site.

PART B See page 3 of the Guidance Notes



PART C – Dangerous Goods Storage Complete one section per depot.

delete existing then add

add

[illegible]

What is a depot? See page 5 of the Guidance Notes.

PART C – Dangerous Goods Storage Complete one section per depot.

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity
No. 3	Transfer Depot	2.1	7500 6690 L ^{tr}

UN Number	Proper Shipping Name	Class (I, II, III)	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m ³
1075	PETROLEUM GAS (LPG)	2.1	II	LPG GAS	6690	L

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

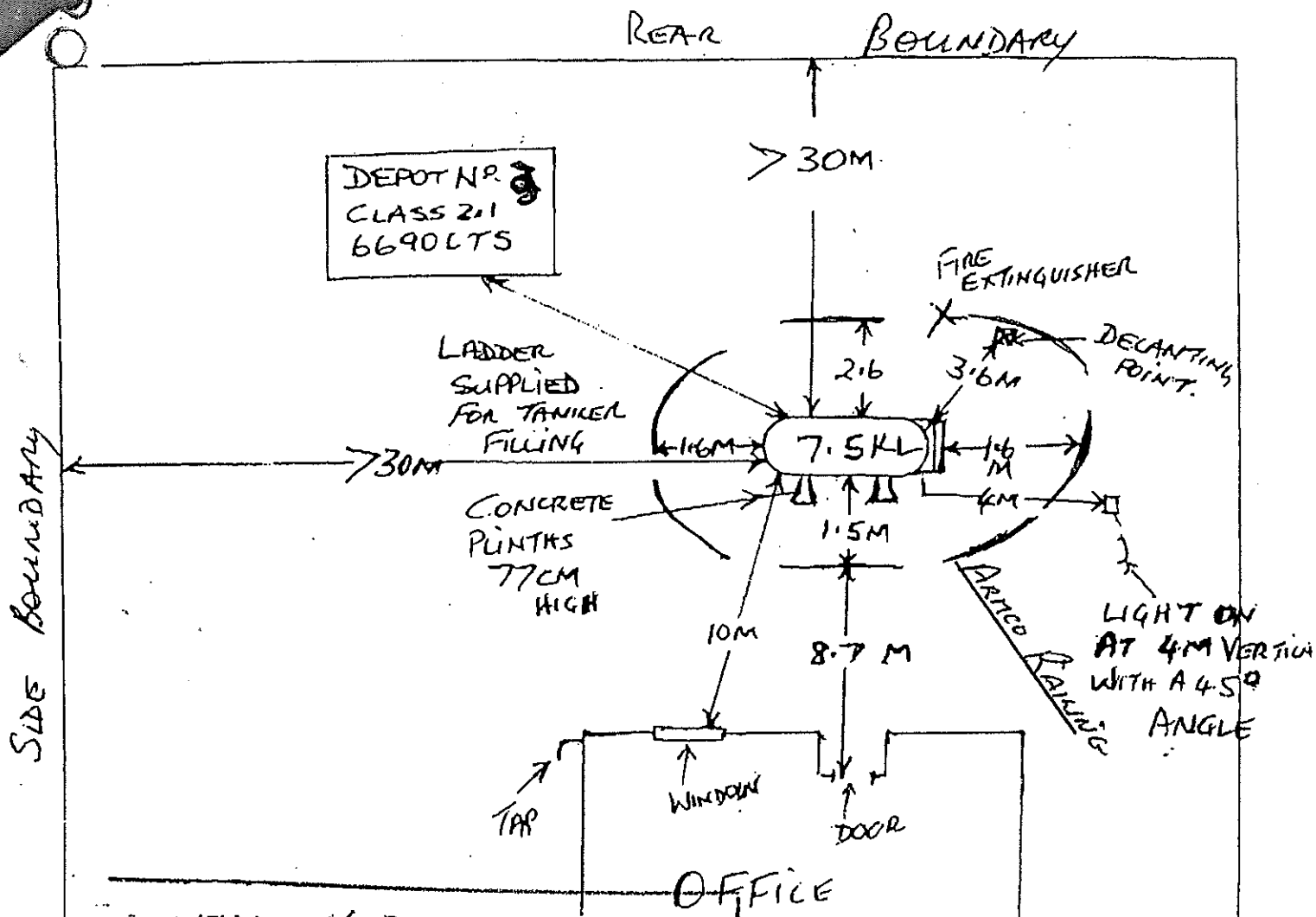
UN Number	Proper Shipping Name	Class (I, II, III)	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m ³

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class (I, II, III)	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m ³

Depot Number	Type of depot (see page 5)	Depot Class	Maximum storage capacity

UN Number	Proper Shipping Name	Class (I, II, III)	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m ³



Depot (Title) No 3

Quantity 7.5 KL

of DG Class 2.1 and PG

as shown in this plan

conforms with the Dangerous Goods Act 1975 and
Australian Standard(s) AS 1596 1997

Signature: *[Signature]* Date: 3/4/00

Name (printed) A. S. GIBSON



Kleenheat Gas

Westfarmers Kleenheat Gas Pty Ltd (Inc. in W.A.)
A.C.N. 008 679 543

NEW SOUTH WALES
Suite 202, 30 Cowper Street, Parramatta NSW 2150
Postal Address:
PO Box W35, Parramatta NSW 2150
Phone (02) 9635 7777 Fax (02) 9606 0215

CUSTOMER

TOLL SPD

119 COSGROVE ROAD

ENFIELD

DATE

29-3-00

CONTACT

VIC BROAD

TANK SIZE

1X7.5 KL

SCALE

N.T.S

REP.

KEN GALDON

APPLICATION

FORKLIFT
DECONTAMINATING

REVISION

SHEET SIZE

A4



D02/037050

WorkCover New South Wales, 400 Kent Street, Sydney 2000. Tel: 9370 5000 Fax: 9370 5999 ALL MAIL TO G.P.O. BOX 5364 SYDNEY 2001

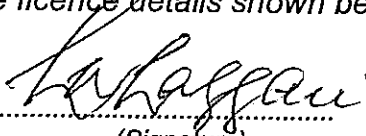
Licence No. 35/030273



APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 AND REGULATION THEREUNDER

DECLARATION: Please renew licence number 35/030273 to 30/07/2003. I confirm that all the licence details shown below are correct (amend if necessary).


(Signature)

for: TOLL TRANSPORT P/L

L. W. LAZZARI
(Please print name)

21.6.02
(Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO: (please do not fax)

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 18 June 2002

Licence Number 35/030273

Expiry Date 30/07/2002

Licensee TOLL TRANSPORT P/L ACN 006 604 191
TOLL SPD

Postal Address: TOLL SPD BOX 256 P O ENFIELD NSW 2136

Licensee Contact LOU LAZZARI Ph. 02 9642 4264 Fax. 02 9642 4146

Premises Licensed to Keep Dangerous Goods IN RAIL YARD
TOLL TRANSPORT P/L TOLL SPD
COSGROVE RD ENFIELD 2136

Nature of Site SERVICES TO ROAD TRANSPORT N.E.C.

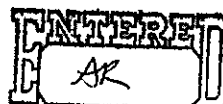
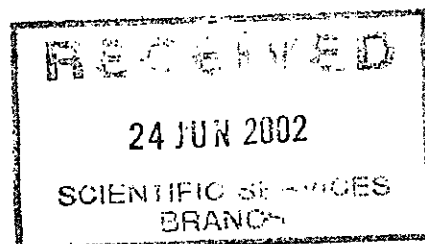
Major Supplier of Dangerous Goods KLEENHEAT

Emergency Contact for this Site IAN ACKERLEY (0419 405 606) Ph. 02 9642 4264

Site staffing 14 HOURS 5 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
2	ABOVE-GROUND TANK	Class C1	9000 L
	UN 00C1 DIESEL		9000 L
3	CYLINDER STORE	Class 2.1	7500 L
	UN 1075 PETROLEUM GASES, LIQUEFIED		6690



Application for Licence to Keep Dangerous Goods



Application for ☒ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

exp: 15/06/02

do transfer & make changes

PART A - Applicant and site information

1 Name of applicant Carolyn P ACN PETER CAROLAN

2 Postal address of applicant P.O. BOX 200 Suburb/Town EDEN Postcode 2551

3 Trading name or site occupier's name GREAT SOUTHERN INN.

4 Contact for licence inquiries
Phone 02 64 96 1515 Fax 02 07 65 Name PETER CAROLAN

5 Previous licence number (if known) 35/ 02 07 65

6 Previous occupier (if known)

7 Site to be licensed
No 152 Street 1 MAY
Suburb / Town EDEN Postcode 2551

8 Main business of site HOTEL

9 Site staffing: Hours per day 24 Days per week 7

10 Emergency contact
Phone 02 64 96 1515 Name PETER CAROLAN

11 Major supplier of dangerous goods BORAN ENERGY

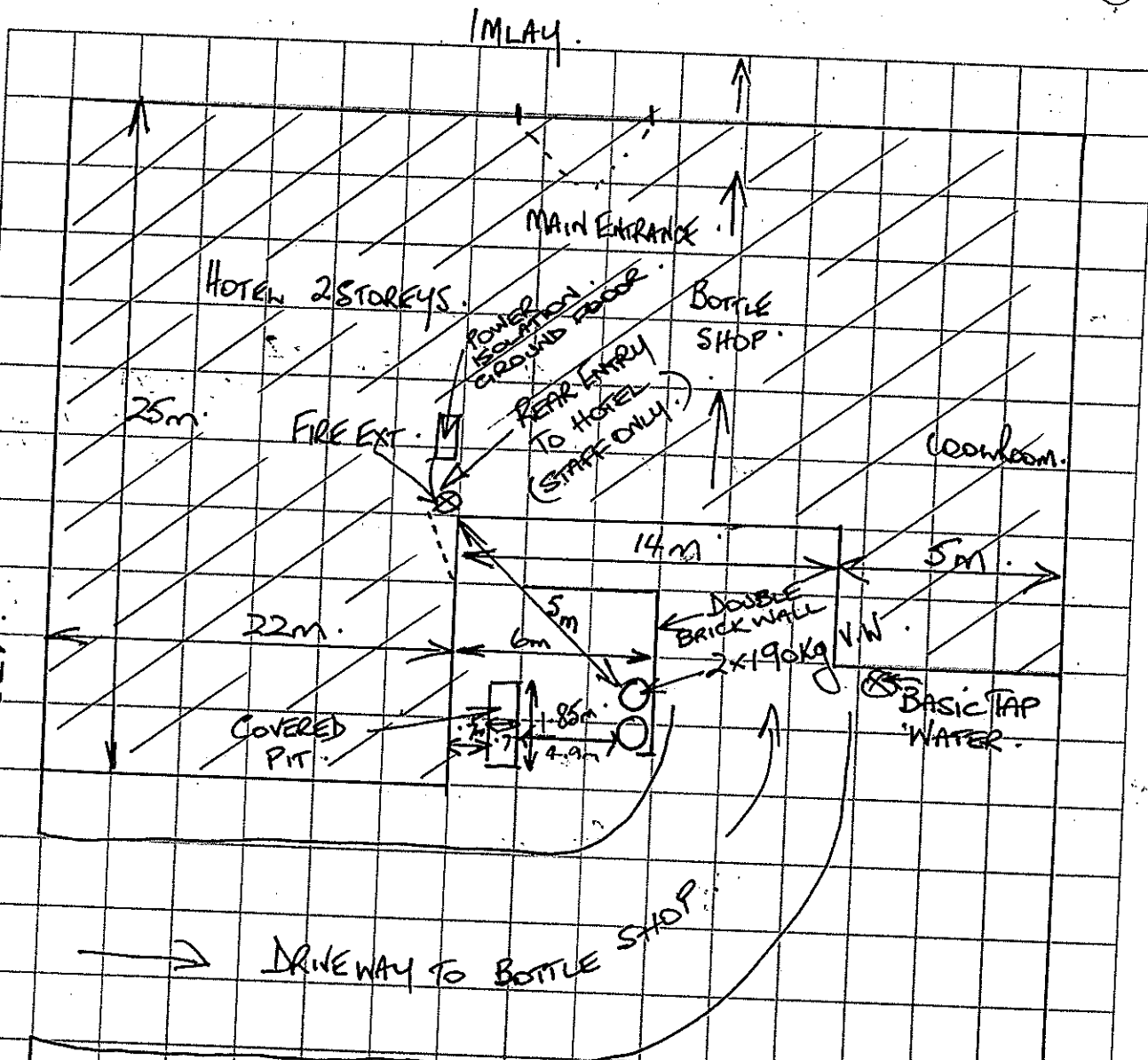
12 If a new site or for amendments to depots
Plan stamped by: Name of Accredited Consultant Date stamped

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant [Signature] Date 22/3/99

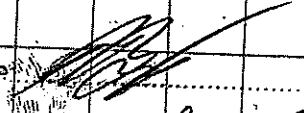
Please send your application, marked **CONFIDENTIAL**, to:
**Dangerous Goods Licensing, Level 3, Locked Bag 10, Clarence Street,
SYDNEY NSW 2000**

PART B



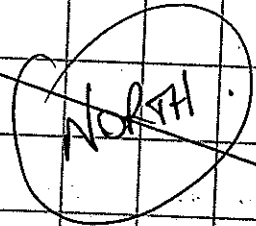
Depot (Title) **DEPOT 1**
 for (Quantity) **380 KG**
 of DG Class **2.1**

as shown in this
 conforms with the **Dangerous Goods Act 1975**
 and Australian Standard **AS 1596:1997**

Signature  Date: **13/07/99**

David Brown

RESIDENTIAL



Site Sketch Please carefully read the instructions on page 3 of the guide before sketching the site.

PART C – Dangerous Goods Storage Complete one section per depot.

If you have more depots than the space provided, photocopy sufficient sheets first.

Please delete existing then add.

Depot Number	Type of depot	Depot Class	Maximum storage capacity
1	ABOVE GROUND CYLINDERS. <i>decanting</i>	2-1	380KG x 190kg.

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³
1075	L.P.G.	2-1 1	COMMERCIAL PROPANE.	688 380 KG.	L.

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

Depot Number	Type of depot	Depot Class	Maximum storage capacity

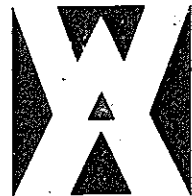
UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	PG Class (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m³



Not in 26



WORKCOVER AUTHORITY

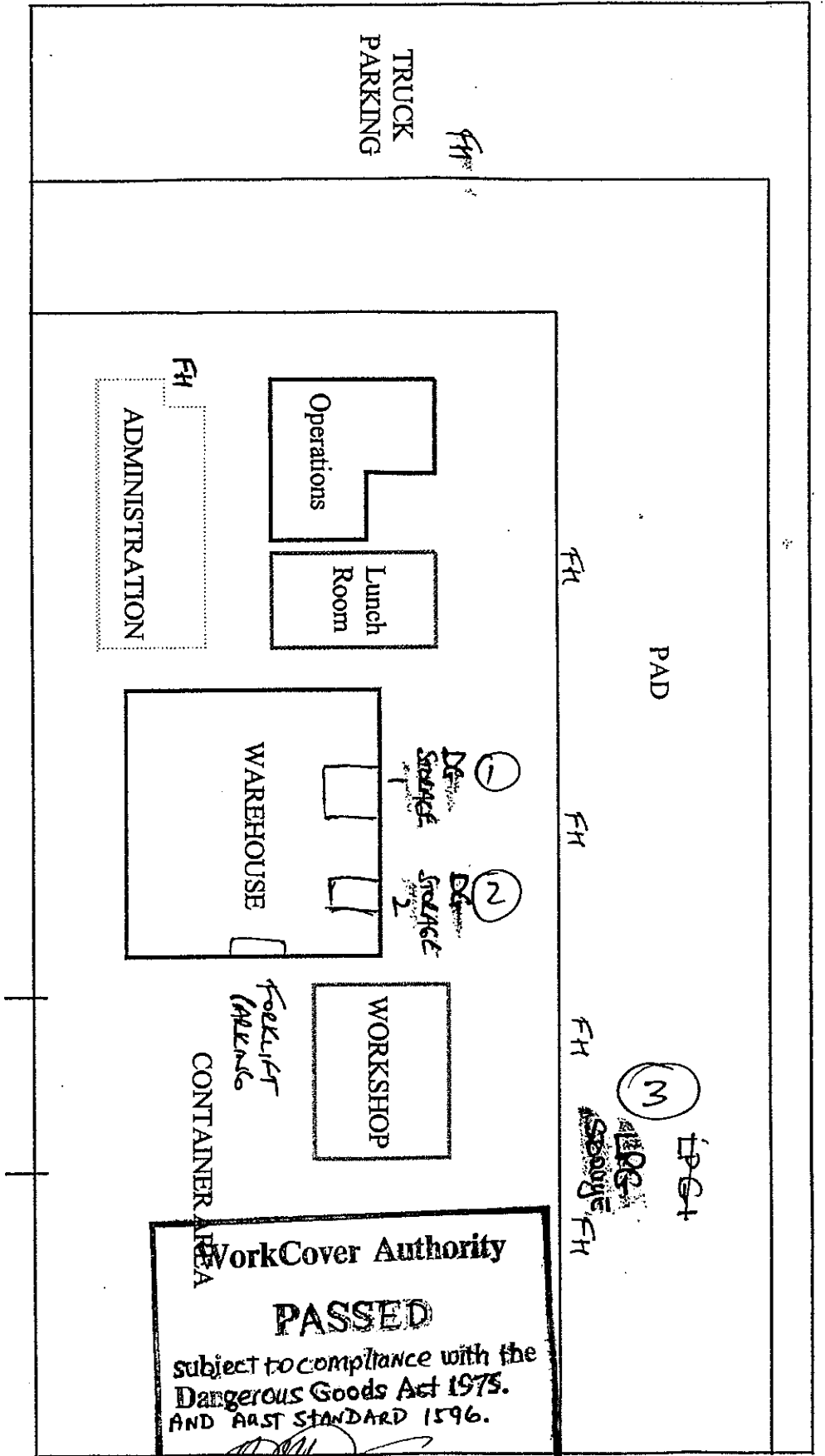
LICENCE TO KEEP DANGEROUS GOODS

(Dangerous Goods Act 1975)

Application for new licence, amendment or transfer

1. Name of applicant	MAYNE NICKLESS LTD	ACN	
	INTERLINK DISTRIBUTION SERVICES		004 073 410
2. Site to be licensed			
No	Street		
	IN RAILLARD COSGROVE RD ENFIELD		
Suburb/Town		Postcode	
ENFIELD		2136	
3. Previous licence number (if known)	N/A 35-030273 GF B F		
4. Nature of site	TRANSPORT DEPOT. 5713		
5. Emergency contact on site:			
Phone	Name		
6426700	BOB MOLLOY		
6. Site staffing:	Hours per day	Days per week	
	12	5	
7. Major supplier of dangerous goods	BOC GASES		
8. If new site or significant modification			
Plan stamped by:	Accredited consultant's name:	Date stamped	
-4 NOV 1995			
9. Number of dangerous goods depots at site	ONE		
10. Trading name or occupier's name	MAYNE NICKLESS LTD INTERLINK DISTRIBUTION SERVICES BRANCH		
11. Postal address of applicant	Suburb/Town	Postcode	
P.O Box 256	ENFIELD	2136	
12. Contact for licence enquiries:			
Phone	Fax	Name	
6426700	6421212	BOB MOLLOY	
I certify that the details contained in this application (or the accompanying computer disk) are true and correct			
13. Signature of applicant	Date		
	6 6 95		

Site Plan



MARSHALLING
AREA

Not Drawn to Scale

Cosgrave DG.

FH = FILL HYDRAULIC.

Complete 1 section per depot

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot number	Type of depot	Class	Licensed maximum storage capacity				
3	Cylinder Store	2.1	30 BOTTLES 600kg				
UN number	Shipping name	Pkg. Class Group EPG	Product or common name	Typical quantity	Uniteg. L, kg, m³		
1075	LIQUID PETROLEUM GAS	2.1	MARATHON-100 LP GAS	600	kg		

Depot number	Type of depot	Class	Licensed maximum storage capacity				
UN number	Shipping name	Pkg. Class Group EPG	Product or common name	Typical quantity	Uniteg. L, kg, m³		

Depot number	Type of depot	Class	Licensed maximum storage capacity				
UN number	Shipping name	Pkg. Class Group EPG	Product or common name	Typical quantity	Uniteg. L, kg, m³		

Depot number	Type of depot	Class	Licensed maximum storage capacity				
UN number	Shipping name	Pkg. Class Group EPG	Product or common name	Typical quantity	Uniteg. L, kg, m³		

CONTACT FOR NOTIFICATION INQUIRIES

Title (Mr) Miss / Ms / Mrs / Other (please specify) _____ Family name PHILLIPS
Given name KELLY Other names GEORGE
Business phone (02) 8755 7303 Business fax number (02) 8755 7317
Business email address kelly.phillips@toll.com.au

Previous Licence Number or Acknowledgement Number (if known)

35/ N/A 037732

Previous Occupier (if known)

N/A

Site on which dangerous goods are to be kept

Number 119 Street LOS GROVE ROAD

Suburb/Town/Locality

SOUTH STRATHFIELD

Postcode

2136

Nearest cross Street

PUNCHBOWL RD

Lot and DP if no street number

Is the site staffed? If yes state number of employees 11 (DAY) 1 (NIGHT)Site staffing: Hours per day 24 HRS Days per week 7

Site Emergency Contact

Phone number (02) 8755 7303 Name KELLY PHILLIPS

Nature of site (eg petrol station, warehouse etc)

TRANSPORT YARD

Nature of primary business activity

LIQUID TRANSPORTATION

ABN Number (if any)

31 006 604 191

Website details (if any)

NNN.TOLL.COM.AU

What is the ANSZIC code most applicable to your business? (see guide for list of codes and further information)

Code 670 Description STORAGE

Attach a site sketch(s) of the premises. Refer to the Guide GDG01 for information on the requirements for the site sketch.

Attach a legible photocopy page from a local Street Directory or other map showing the locality of the premises. Mark the location of the premises with an X.

NOTIFICATION OF DANGEROUS GOODS ON PREMISES FORM

FDG01

List the dangerous goods that will be stored and/or processed on these premises (refer to Guide GDG01). Copy this page and attach additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
1	ROADSIDE TANKER	3	40000 LTRS

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1170	FUEL GRADE ETHANOL	3	II	ETHANOL	2(Y)E	32000	L

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

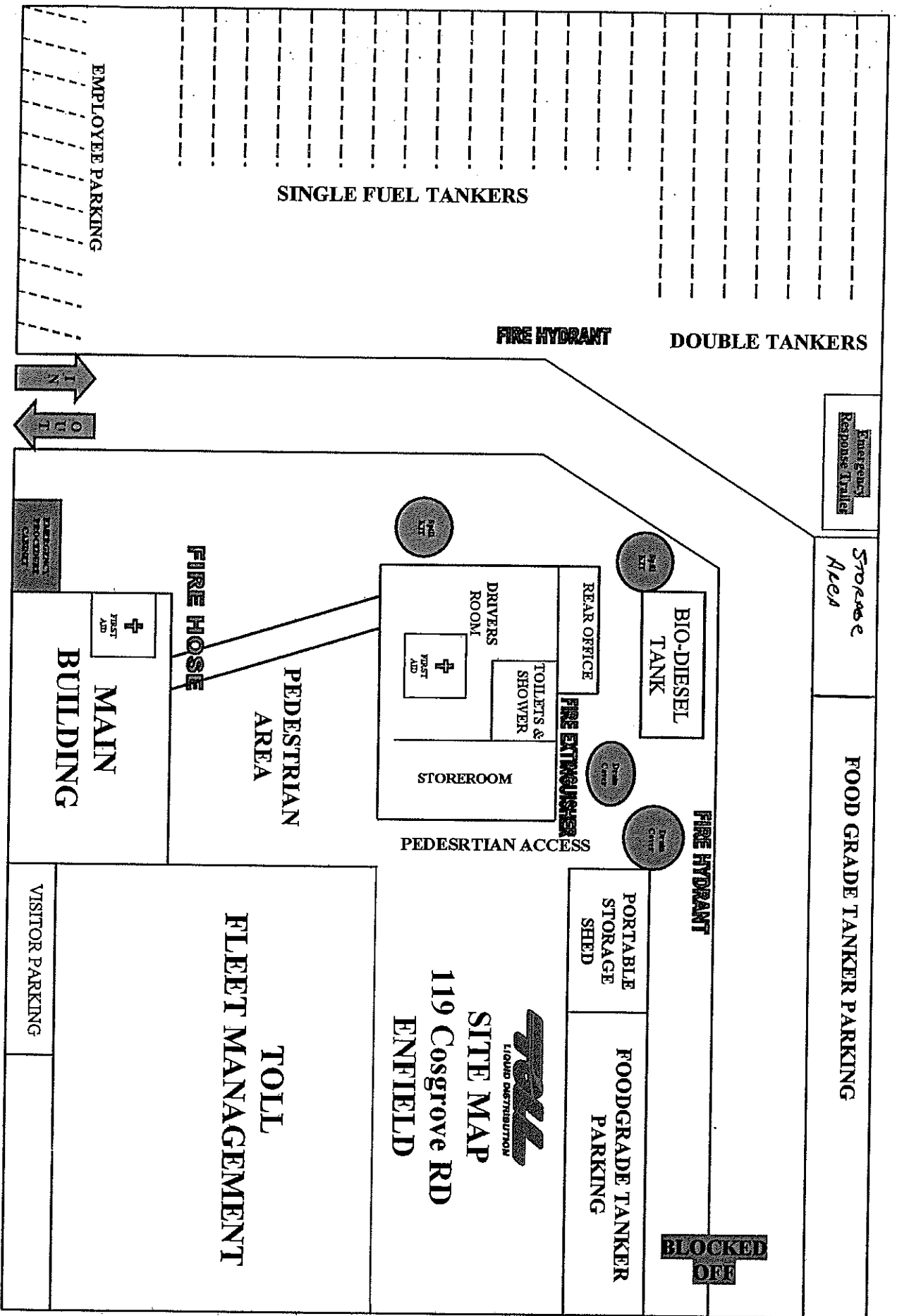
UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg



EMERGENCY ASSEMBLY POINT

SERVICE ROAD

Notification of dangerous goods on premises

DG-01

Storage facility
identifier

1A

Type of storage facility

ROOFED STORE

Class or division

8

Maximum storage capacity

3000

Unit (L or kg or number)

L

UN number

1719

Class or division

8

Typical quantity

1500

Unit (L or kg or number)

L

Packing group

III

Proper shipping name

CAUSTIC ALKALI LIQUID N.O.S.
CONTAINS POTASSIUM HYDROXIDE

Product or common name

ECLIPSE

UN number

1791

Class or division

8

Typical quantity

1500

Unit (L or kg or number)

L

Packing group

III

Proper shipping name

HYPOCHLORITE SOLUTION

Product or common name

DAIRY CHLOR

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

6. STORAGE DETAILS (must be completed for both new notifications and further notifications)

If space is insufficient please provide details on a separate sheet of paper.

Storage facility

Identifier

4

Type of storage facility

WATER TREATMENT PLANT

Class or division

8

Maximum storage capacity

1000

Unit (L or kg or number)

L

UN number

1824

Class or division

8

Typical quantity

1000

Unit (L or kg or number)

L

Packing group

II

Proper shipping name

SODIUM HYDROXIDE SOLUTION

Product or common name

CS46

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

Notification of dangerous goods on premises

DG - 01

Storage facility
identifier

18

Type of storage facility

ROOFED STORE

Class or division

8

Maximum storage capacity

2500

Unit (L or kg or number)

L

UN number

1719

Class or division

8

Typical quantity

2500

Unit (L or kg or number)

L

Packing group

II

Proper shipping name

CAUSTIC ALKALI LIQUID N.O.S.

CONTAINS SODIUM HYDROXIDE

Product or common name

CONQUER

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

Storage facility
identifier

3

Type of storage facility

ROOFED

STORE

Class or division

8

Maximum storage capacity

100

Unit (L or kg or number)

KG

UN number

1759

Class or division

8

Typical quantity

100

Unit (L or kg or number)

KG

Packing group

III

Proper shipping name

CORROSIVE

SOLID N.O.S.

CONTAINS

DISODIUM

TRIOXOSILICATE

Product or common name

SUPREME POWDER

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

UN number

Class or division

Typical quantity

Unit (L or kg or number)

Packing group

Proper shipping name

Product or common name

TITLE
ALCO
DANGEROUS GOODS
STORAGE

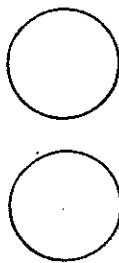
Alco Services Pty Ltd
Enfield
100 Coogee Road
Enfield NSW 2136

- HUMP (50mm IN HEIGHT)
- BUND (700mm IN HEIGHT)
- SPLASH WALL (1500mm IN HEIGHT ON TOP ON BUND WALL)
- BUND (200mm IN HEIGHT)
- SPLASH WALL (1000mm IN HEIGHT ON TOP ON BUND WALL)

WALKWAY AND PUMP STATIONS

8050

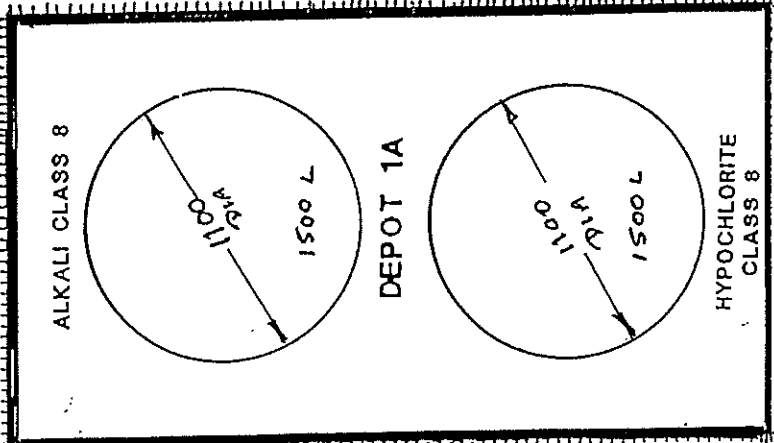
ACCESS TO
PUMP STATIONS



ALKALI CLASS 8

DEPOT 3

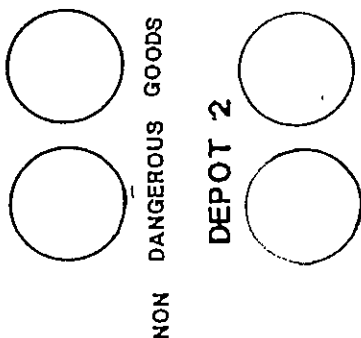
50L CAPACITY
SUMP



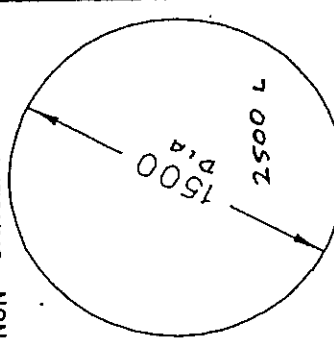
3240



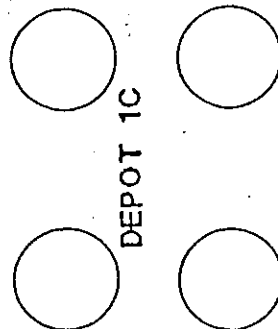
3750



NON DANGEROUS GOODS



DEPOT 1B



DEPOT 1C

ALKALI CLASS 8

1010

50L CAPACITY

Appendix C

Selected Site Photographs

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

Site Photographs



Photo 1: Inside the former Toll building



Photo 2: Construction material storage and parking area along western site boundary, looking south



Photo 3:Construction material storage area in the centre of the site, looking south-east



Photo 4: Storage area, looking north



Photo 5: Weighbridge located in the western portion of the site, looking west

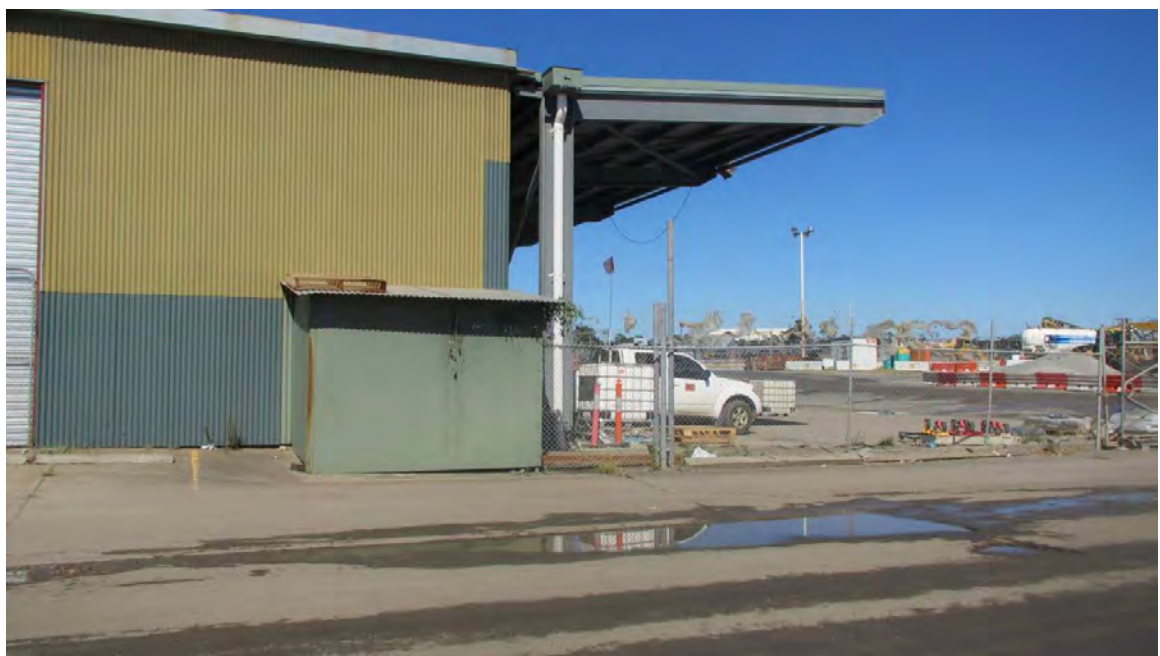


Photo 6: Designated refuelling area, looking north-west



Photo 7: Pugmull and DGB stockpile, looking north



Photo 8: Former Toll office building, looking west

Appendix D

Borehole Logs

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH1**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **8.12.2012**

Logged by: **AW**

Checked by: **FW**

drilling information				material substance							
method	penetration	support	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
1	2	3		RL							
HA	DT						CONCRETE	M			
			E+5.8				FILL: Clayey Gravel, fine and medium, angular and subangular, grey.	W			
			E+4.7	1			FILL: Silty Clay, medium plasticity, pale brown, grey and orange with some cobbles.				
PT			E+5.3	2			Trace of green, clayey sand.				Hydrocarbon odour observed.
			E+3.9				FILL: Gravelly Sand, fine and coarse grained with some gravel and trace of clay.	D			Ash observed.
			E+0.0	3							
				4							
			E+3.9	5							
				6			FILL: Silty Clay, medium plasticity, dark grey and black with trace of gravel.	W			
			E+4.1				CLAY: Silty, medium plasticity, grey with minor mottled pale brown.	F			
				7			Borehole BH1 terminated at 6.3m				Target depth reached.
				8							

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
AS auger screwing*	M mud	U ₅₀ undisturbed sample 50mm diameter	based on unified classification system	VS very soft
AD auger drilling*	C casing	U ₆₃ undisturbed sample 63mm diameter		S soft
RR roller/tricone		D disturbed sample		F firm
W washbore		N standard penetration test (SPT)		St stiff
CT cable tool		N* SPT - sample recovered		VSt very stiff
HA hand auger		Nc SPT with solid cone		H hard
DT diatube		V vane shear (kPa)		Fb friable
B blank bit		P pressuremeter		VL very loose
V V bit		Bs bulk sample		L loose
T TC bit		E environmental sample		MD medium dense
NDD Non-destructive drilling		R refusal		D dense
*bit shown by suffix e.g. ADT				VD very dense

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH10**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **AW/KH**

Checked by: **FW**

drill model and mounting: Geoprobe 7822DT		Easting: 321808		slope: -90°		R.L. Surface:	
hole diameter: 150 mm		Northing: 6247532		bearing:		datum:	
drilling information				material substance			
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	structure and additional observations
1	2	3					
HA	DT						
				E+0.3			
				E+3.3		1	
				E		2	
				E		3	
						4	
						5	
						6	
						7	
						8	
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	
classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Borehole No. **BH11**

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Date started: **8.12.2012**

Principal:

Date completed: **8.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321803		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247512		bearing:				datum:							
drilling information						material substance													
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations						
CC	1								soil type: plasticity or particle characteristics, colour, secondary and minor components.			100 200 300 400							
HA	2			E+3.4		1			CONCRETE	M	St								
	3								FILL: Sand, medium and coarse grained, yellow and dark brown with some gravel.										
									FILL: Crushed Sandstone, recovered as fine and coarse grained sand, yellow, with some gravel.										
PT				E+5.4 DUP3		2			FILL: Clay, medium plasticity, red, grey and brown with some sand and trace of gravel.										
									FILL: Clay, medium plasticity, orange, grey and mottled red with some gravel. (Reworked extremely weathered shale)										
				E+6.6		3			CLAY: medium plasticity, orange, grey, red and pale brown with some gravel.		S								
									SHALE: Extremely weathered, orange, red, grey and mottled white.	D	Fb								
				E+5.5		4			Borehole BH11 terminated at 3.1m				Target depth reached.						
						5													
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**
Date completed: **9.12.2012**
Logged by: **KH**
Checked by: **FW**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

drill model and mounting:		Geoprobe 7822DT		Easting: 321851		slope: -90°		R.L. Surface:					
hole diameter:		150 mm		Northing: 6247530		bearing:		datum:					
drilling information					material substance								
method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
HA				E+3.2 DUP7					FILL: Gravelly Clay, medium plasticity, brown with some gravel, with trace of shale and ironstone	M	VSt		
						1			FILL: Gravelly Clay, low plasticity, grey and orange with some gravel.	D			
				E+5.5									
PT						2			FILL: Sandy Clay, low plasticity, dark brown and black with some sand and trace of gravel. CLAY: medium plasticity, grey and red ironstone staining with trace of gravel.	M	S		
				E+4.6					SHALE: Extremely weathered, laminated, orange and grey.	W	Fb		
				E+5.0					Borehole BH12 terminated at 2.5m				Target depth reached.
						3							
						4							
						5							
						6							
						7							
						8							
method				support		notes, samples, tests				classification symbols and soil description		consistency/density index	
AS AD RR W CT HA DT B V T NDD				M mud C casing penetration 1 2 3 4 no resistance rising to refusal water 10/1/98 water level on date shown water inflow water outflow		U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				based on unified classification system moisture D dry M moist W wet Wp plastic limit W _L liquid limit		VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	
*bit shown by suffix e.g. ADT													

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH13**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **8.12.2012**

Logged by: **AW**

Checked by: **FW**

drilling information				material substance							
method	penetration	support	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
1	2	3		RL							
HA							CONCRETE	M			
			E+5.2				FILL: Sand, coarse grained, brown and yellow.				
			E+5.1	1			FILL: Gravelly Sand, medium and coarse grained, angular and subangular, dark brown, with some gravel and trace of clay. Becoming brown	W			Rootlets observed.
PT			E+3.4				FILL: Silty Clay, medium plasticity, pale grey with minor mottled orange and brown, trace of gravel.				
							Dark grey gravel band		St		
				2			Borehole BH13 terminated at 1.8m				Refusal.
				3							
				4							
				5							
				6							
				7							
				8							

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
AS auger screwing*	M mud	U ₅₀ undisturbed sample 50mm diameter	based on unified classification system	VS very soft
AD auger drilling*	C casing	U ₆₃ undisturbed sample 63mm diameter		S soft
RR roller/tricone		D disturbed sample		F firm
W washbore		N standard penetration test (SPT)		St stiff
CT cable tool		N* SPT - sample recovered		VSt very stiff
HA hand auger		Nc SPT with solid cone		H hard
DT diatube		V vane shear (kPa)		Fb friable
B blank bit		P pressuremeter		VL very loose
V V bit		Bs bulk sample		L loose
T TC bit		E environmental sample		MD medium dense
NDD Non-destructive drilling		R refusal		D dense
*bit shown by suffix e.g. ADT				VD very dense

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH14**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321789		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247467		bearing:				datum:							
drilling information				material substance															
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter	structure and additional observations						
CC	1								CONCRETE	M	MD	100							
HA	2			E+10.8		1		FILL: Gravelly, sandy Clay, low plasticity, dark brown and black.		St	200								
	3			E+11.9 DUP4/4A				FILL: Clay, medium plasticity, grey, red, orange and dark brown with some gravel.			300								
PT						2		FILL: Clayey Sand, fine and medium grained, grey and black.		VSt	400								
				E+3.1				CLAY: high plasticity, grey, orange and mottled red with some gravel. (Extremely weathered shale)											
				E+4.4		3		SHALE: Extremely weathered, grey, orange and mottled red.	D	Fb									
						4		Borehole BH14 terminated at 3.3m					Target depth reached.						
						5													
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Borehole No. **BH15**

Environmental Log - Borehole

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321796		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247441		bearing:				datum:							
drilling information						material substance													
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations						
CC	1								BITUMEN	M	L								
HA	2			E+3.3					FILL: Sandy, gravelly Clay, low plasticity, brown.										
	3								FILL: Gravelly Sand, medium and coarse grained, brown and black with some gravel.										
						1			CLAY: medium plasticity, pale brown with trace of gravel. (Extremely weathered shale).		St								
PT				E+7.8 DUP5							VSt								
				E+6.1		2			SHALE: Extremely weathered, orange and grey with trace of gravel. Borehole BH15 terminated at 1.8m	D			Target depth reached.						
						3													
						4													
						5													
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH16**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting: Geoprobe 7822DT		Easting: 321805		slope: -90°		R.L. Surface:	
hole diameter: 150 mm		Northing: 6247442		bearing:		datum:	
drilling information				material substance			
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	structure and additional observations
HA	CC						
				E+2.4			
				E+4.1 DUP6/6A		1	
				E+2.5			
PT							
						2	
						3	
						4	
						5	
						6	
						7	
						8	
method				support		notes, samples, tests	
AS auger screwing*				M mud N nil		U ₅₀ undisturbed sample 50mm diameter	
AD auger drilling*				C casing		U ₆₃ undisturbed sample 63mm diameter	
RR roller/tricone				penetration		D disturbed sample	
W washbore				1 2 3 4		N standard penetration test (SPT)	
CT cable tool				no resistance ranging to refusal		N* SPT - sample recovered	
HA hand auger				water		Nc SPT with solid cone	
DT diatube				10/1/98 water level on date shown		V vane shear (kPa)	
B blank bit				water inflow		P pressuremeter	
V V bit				water outflow		Bs bulk sample	
T TC bit						E environmental sample	
NDD Non-destructive drilling						R refusal	
*bit shown by suffix e.g. ADT							
						classification symbols and soil description based on unified classification system	
						moisture	
						D dry	
						M moist	
						W wet	
						Wp plastic limit	
						WL liquid limit	
						consistency/density index	
						VS very soft	
						S soft	
						F firm	
						St stiff	
						VSt very stiff	
						H hard	
						Fb friable	
						VL very loose	
						L loose	
						MD medium dense	
						D dense	
						VD very dense	

Borehole No. **BH17**

Environmental Log - Borehole

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **AW**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321822		slope: -90°		R.L. Surface:				
hole diameter:		150 mm		Northing: 6247450		bearing:		datum:				
drilling information					material substance							
method	penetration	support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations
HACC	1 2 3			E+5.3				CONCRETE FILL: Gravelly Sand, coarse grained, dark brown and grey with some gravel. CLAY: Silty, high plasticity, orange and brown with red, brown and mottled pale grey. Becoming pale grey. Borehole BH17 terminated at 0.73m	M		100 200 300 400	Target depth reached.
					1							
					2							
					3							
					4							
					5							
					6							
					7							
					8							
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration water 10/1/98 water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal			classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Borehole No. **BH18**

Environmental Log - Borehole

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321828		slope:		-90°		R.L. Surface:	
hole diameter:		150 mm		Northing		6247465		bearing:				datum:	
drilling information						material substance							
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations
HA	DT								CONCRETE	M			
				E+9.9					FILL: Gravelly Sand, medium and coarse grained, dark brown and grey.		St		
				E+6.3		1			CLAY: Silty, medium plasticity, grey with mottled red and brown. Becoming high plasticity.		VSt		
Borehole BH18 terminated at 1m													
Target depth reached.													
2													
3													
4													
5													
6													
7													
8													
method		support		notes, samples, tests		classification symbols and soil description		consistency/density index					
AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT		M mud C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow		U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal		based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense					

Borehole No. **BH19**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321864		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247492		bearing:				datum:							
drilling information						material substance													
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations						
HA	1 2 3			E + 2.8		1			FILL: Gravelly Sand, fine to medium grained, dark and pale brown, with some gravel.	M	MD	100 200 300 400	Target depth reached.						
									CLAY: medium plasticity, orange and pale brown.		VSt								
									Becoming grey and mottled red										
									Borehole BH19 terminated at 1m										
						2													
						3													
						4													
						5													
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH2**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **8.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting: Geoprobe 7822DT Easting: 321753 slope: -90° R.L. Surface:
hole diameter: 150 mm Northing 6247574 bearing: datum:

drilling information						material substance									
method	penetration			support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations
HA											FILL: Gravel, fine and medium, angular and subangular with some silt.	M	MD		Reworked natural material.
					E+3.9						FILL: Clayey Sand, fine and medium grained, dark brown with some gravel.				
					E+5.4 DUP1		1				FILL: Sandy Clay, medium plasticity, orange, red and brown.				
PT											FILL: Clay, medium plasticity, orange, grey, red and brown with some gravel. (Reworked extremely weathered shale)		D		
					E+6.2		2								
											FILL: Sandy Gravel, fine and medium, angular, with black and grey ash observed		L		
							3								
					E+5.1		4				FILL: Sand, fine grained, grey.				
											FILL: Sandy Gravel, fine and medium, angular, black grey and brown ash				
					E+5.5		5				CLAY: Sandy, low to medium plasticity, brown and grey.	W			
											Borehole BH2 terminated at 5.3m				Target depth reached.
							6								
							7								
							8								

method	support	notes, samples, tests	classification symbols and soil description based on unified classification system	consistency/density index
AS auger screwing*	M mud	U ₅₀ undisturbed sample 50mm diameter		VS very soft
AD auger drilling*	C casing	U ₆₃ undisturbed sample 63mm diameter		S soft
RR roller/tricone		D disturbed sample		F firm
W washbore		N standard penetration test (SPT)		St stiff
CT cable tool		N* SPT - sample recovered		VSt very stiff
HA hand auger		Nc SPT with solid cone		H hard
DT diatube		V vane shear (kPa)		Fb friable
B blank bit		P pressuremeter		VL very loose
V V bit		Bs bulk sample		L loose
T TC bit		E environmental sample		MD medium dense
NDD Non-destructive drilling		R refusal		D dense
*bit shown by suffix e.g. ADT				VD very dense

Borehole No. **BH21**

Environmental Log - Borehole

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **AW**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321817		slope: -90°		R.L. Surface:						
hole diameter:		150 mm		Northing 6247420		bearing:		datum:						
drilling information				material substance										
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	meter	structure and additional observations
DT									CONCRETE	D				
HA									FILL: Gravelly Sand, medium and coarse grained, dark brown with trace of clay. FILL: Crushed Sandstone, pale brown and yellow. Borehole BH21 terminated at 0.5m					Refusal.
						1								
						2								
						3								
						4								
						5								
						6								
						7								
						8								
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense		

Borehole No. **BH22**

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting: Geoprobe 7822DT		Easting: 321849		slope: -90°		R.L. Surface:	
hole diameter: 150 mm		Northing: 6247424		bearing:		datum:	
drilling information				material substance			
method	penetration	support	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.
1	2	3					
H&C							CONCRETE FILL: Gravelly Sand, medium and coarse grained. FILL: Crushed Sandstone. Borehole BH22 terminated at 0.3m
				1			
				2			
				3			
				4			
				5			
				6			
				7			
				8			
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	
classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Borehole No. **BH23**

Environmental Log - Borehole

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Client: **Sydney Ports Corporation**

Date started: **9.12.2012**

Principal:

Date completed: **9.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **AW**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321883		slope: -90°		R.L. Surface:				
hole diameter:		150 mm		Northing 6247425		bearing:		datum:				
drilling information					material substance							
method	penetration	support	water	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa 100 200 300 400	structure and additional observations
HADT	1 2 3							ASPHALT FILL: Gravelly Sand, medium and coarse grained, dark grey and black with some gravel. CLAY: Silty, high plasticity, pale grey with mottled red/brown. SHALE: Extermely weathered, pale grey. Borehole BH23 terminated at 0.85m	M	VSt		
				E+4.3	1							Target depth reached.
				E+3.6	2							
					3							
					4							
					5							
					6							
					7							
					8							

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT	support M mud C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Borehole No. **BH24**

Sheet 1 of 1
Office Job No.: **ENAU RHOD04419AA**

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Date started: **8.12.2012**

Principal:

Date completed: **8.12.2012**

Project: **Baseline Contamination Assessment**

Logged by: **AW/KH**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321805		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247493		bearing:				datum:							
drilling information						material substance													
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations						
DT	1 2 3								soil type: plasticity or particle characteristics, colour, secondary and minor components.			100 200 300 400							
HA				E+4.8		1			CONCRETE	M									
									FILL: Sand, coarse grained, brown and yellow.										
				E+5.3					FILL: Silty Clay, high plasticity, grey with orange, brown and mottled red. Becoming pale grey, minor mottling with trace of gravel.										
PT						2			FILL: Clay, high plasticity, pale grey, mottled orange and red with traces of sand and gravel.										
				E+3.7					FILL: Clay, high plasticity, red, orange and mottled grey (extremely weathered shale) with some sand and gravel, abundant black ash observed										
				E+7.6		3			SHALE: Extremely weathered, low plasticity, grey, orange and mottled red with some gravel. Borehole BH24 terminated at 2.9m				Refusal.						
						4													
						5													
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH25**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **8.12.2012**

Logged by: **AW**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321834		slope: -90°		R.L. Surface:							
hole diameter:		150 mm		Northing 6247497		bearing:		datum:							
drilling information				material substance											
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations		
1	2	3													
HA									CONCRETE	M					
				E+8.1		1			FILL: Sand, coarse grained, brown and yellow.						
				E+6.7					FILL: Gravelly sandy Clay, medium plasticity, dark brown, with some gravel. Becoming dark grey.				Foreign matter inclusions (tape, brick and wood fragments)		
PT						2			FILL: Silty Clay, medium plasticity, pale grey with mottled red/brown.						
									FILL: Silty Clay, low plasticity, dark grey and brown with some sand and gravel.						
				E+4.7					CLAY: silty, medium plasticity, pale grey, orange and brown.	St					
				E+6.6					Borehole BH25 terminated at 2.5m				Refusal.		
						3									
						4									
						5									
						6									
						7									
						8									
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH3**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		321786		slope:		-90°		R.L. Surface:							
hole diameter:		150 mm		Northing		6247592		bearing:				datum:							
drilling information				material substance															
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations						
HA	CC			E+6.3					FILL: Roadbase, compacted.	D	D								
									FILL: Sandy Gravel, medium and coarse grained, angular and subangular, dark brown.										
				E+9.4		1			FILL: Crushed Sandstone, recovered as fine and medium gravel with fine and coarse grained sand, pale brown and yellow.										
PT									FILL: Clay, low plasticity, orange, grey and brown with some gravel.	M	St								
				E+12.1 DUP9		2			Becoming brown										
									Becoming grey										
				E+12.7		3			FILL: Clay, high plasticity, orange and grey with trace of gravel.										
				E+14.6		4													
				E+13.7		5			FILL: Clayey Sand, fine grained, brown with some gravel.										
									Borehole BH3 terminated at 5m										
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration  1 no resistance 2 ranging to 3 refusal 4 water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH4**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: ***KH***

Checked by: **FW**

drill model and mounting:				Geoprobe 7822DT		Easting:		321822		slope:		-90°		R.L. Surface:		
hole diameter:				150 mm		Northing		6247590		bearing:		datum:				
drilling information						material substance										
method		penetration			support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
PT													D	D		Reworked natural material
							E+10		1			FILL: Roadbase, compacted. FILL: Clay, low plasticity, grey and orange with some gravel (Reworked extremely weathered shale) Becoming brown/orange				
							E+12					Becoming red Becoming brown and red, extremely weathered ironstone observed		St		
							E+13.0		2			FILL: Gravelly Clay, low plasticity, grey and red with some gravel. Becoming brown Becoming pale red	M			
							E+14.7		3			FILL: Clay, high plasticity, grey, brown and orange.		S		
							E+12.9 DUP10/10A		4			FILL: Clayey Sand, fine grained, pale brown and brown with some gravel.	W	MD		
							E+4.7		5			CLAY: high plasticity, grey, orange and red with some gravel. (Extremely weathered shale) Borehole BH4 terminated at 5m	M	VSt		Refusal.
									6							
									7							
									8							
method		support			penetration	water	notes, samples, tests	classification symbols and soil description				consistency/density index				
AS AD RR W CT HA DT B V T NDD *bit shown by suffix e.g. ADT		M mud C casing N nil						based on unified classification system				VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense				
							U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	moisture D dry M moist W wet Wp plastic limit WL liquid limit								

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH5**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **8.12.2012**

Logged by: **AW**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321749		slope: -90°		R.L. Surface:											
hole diameter:		150 mm		Northing 6247534		bearing:		datum:											
drilling information				material substance															
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa 100 200 300 400	structure and additional observations						
HA	PT								CONCRETE	M									
				E+4.8		1			FILL: Gravelly Sand, fine and coarse grained, dark grey and black with some gravel. FILL: Silty Clay, high plasticity, grey, pale orange and pale brown. Becoming grey with trace of gravel.	W									
				E+4.8		2													
				E+2.0		3			FILL: Gravelly Sand, medium and coarse grained, dark grey and black with some gravel and trace of clay.	D									
				E+3.1		4			With some coal fragments.				No sample recovery from 4m						
						5													
						6													
						7			Borehole BH5 terminated at 6.3m										
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH6**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **AW**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting:	321771	slope:	-90°	R.L. Surface:	
hole diameter:		150 mm		Northing	6247546	bearing:		datum:	

drilling information				material substance									
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations
1	2	3											
HA	DT								CONCRETE	M			
				E+7.1					ASPHALT				
						1			FILL: Crushed Sandstone, medium and coarse, angular.				
				E+4.5					FILL: Silty Clay, high plasticity, brown, with some mottled pale grey, with some gravel.				
									Becoming pale grey with minor mottled orange.				
						2							
				E+5.1									
						3							
				E+4.1									
						4			FILL: Silty Clay, medium plasticity, brown with minor mottled grey with some ash.				
				E+6.0									
						5				W			
				E+4.5									
									Borehole BH6 terminated at 5m				
						6							
						7							
						8							

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT	support M mud C casing penetration  1 no resistance 2 ranging to 3 refusal 4 water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH7**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting:		Geoprobe 7822DT		Easting:		32180		slope:		-90°		R.L. Surface:	
hole diameter:		150 mm		Northing		6247564		bearing:				datum:	

drilling information						material substance							
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	pocket penetro- meter	structure and additional observations
1	2	3							soil type: plasticity or particle characteristics, colour, secondary and minor components.			100 200 300 400 kPa	
HA									BITUMEN	D	VSt		
				E+3.1					FILL: Sandy, gravelly clay, low plasticity, orange and brown.				
				E+7.7 DUP8/8A		1			FILL: Gravelly Clay, low plasticity, grey and orange. (Reworked Extremely weathered shale).				
PT						2			Becoming orange/brown.				
				E+7.6									
						3			FILL: Clay, low plasticity, dark brown with some gravel.	M	S		
				E+3.9					Becoming orange				
						4			FILL: Sandy Clay, low plasticity, dark brown with some gravel and sand.	W			
				E+7.2									
						5			CLAY: high plasticity, pale brown.	D			
				E+5.6					SHALE: Extremely weathered		Fb		
									Borehole BH7 terminated at 5m				Target depth reached.
						6							
						7							
						8							

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT	support M mud C casing penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH8**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **9.12.2012**

Date completed: **9.12.2012**

Logged by: **AW**

Checked by: **FW**

drill model and mounting:		Mobile rig (track)		Easting: 321830		slope: -90°		R.L. Surface:											
hole diameter:		150 mm		Northing: 6247575		bearing:		datum:											
drilling information				material substance															
method	penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	meter	structure and additional observations					
PT	1 2 3								FILL: Clayey Gravel, medium and coarse, angular and subangular. FILL: Silty Clay, high plasticity, grey, brown and red with some gravel. Becoming brown	M									
				E+7.0		1													
				E+6.1		2													
						3			FILL: Silty Clay, high plasticity, pale grey mottled orange-brown with some gravel.					Trace of wood fibres.					
				E+4.4		4			Dark brown, fine gravel band observed										
				E+6.0		5			Borehole BH8 terminated at 4m										
						6													
						7													
						8													
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT				support M mud C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Environmental Log - Borehole

Client: **Sydney Ports Corporation**

Principal:

Project: **Baseline Contamination Assessment**

Borehole Location: **Area G, Intermodal Logistics Centre, Enfield**

Borehole No. **BH9**

Sheet 1 of 1

Office Job No.: **ENAU RHOD04419AA**

Date started: **8.12.2012**

Date completed: **9.12.2012**

Logged by: **KH**

Checked by: **FW**

drill model and mounting: Geoprobe 7822DT		Easting: 321765		slope: -90°		R.L. Surface:	
hole diameter: 150 mm		Northing: 6247507		bearing:		datum:	

drilling information				material substance							
method	penetration	support	notes samples, tests, etc	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- kPa	structure and additional observations
1	2	3		RL							
CC							CONCRETE	M	MD		
HA			E+3.3				FILL: Sandy, clayey Gravel, fine and medium, angular, with fine to medium grained sand, dark brown.				
			E+4.5 DUP2/2A	1			FILL: Sandy Clay, medium plasticity, orange, red and grey with fine to medium grained sand, trace of gravel. Becoming grey		St		
PT			E+40.5	2			FILL: Clay, medium plasticity, orange, red and brown with trace of gravel. (Reworked extremely weathered shale). Becoming read / brown / black				
			E+26.9	3			FILL: Sandy Clay, low plasticity, black.	W			
			E+33.7	4			FILL: Sand, fine and medium grained, grey with some gravel.		MD		
			E+5.5	5			CLAY: high plasticity, mottled grey and orange.	M	VSt		
							Borehole BH9 terminated at 5m				Target depth reached.
				6							
				7							
				8							

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit NDD Non-destructive drilling *bit shown by suffix e.g. ADT	support M mud C casing penetration  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Appendix E

Laboratory Reports and Chain of Custody Documentation

**Baseline Contamination Assessment
Area G, Intermodal Logistics Centre
Cosgrove Road, Enfield NSW**

Certificate of Analysis

Coffey Environments Pty Ltd NSW
Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Attention: Fiona Wong

Report 362590-S-V2
Client Reference ILC ENFIELD ENAURHOD04419AA
Received Date Dec 11, 2012

Client Sample ID			BH1 0.9-1.0	BH1 6.2-6.3	BH2 0.2-0.3	BH3 1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07694	S12-De07699	S12-De07700	S12-De07707
Date Sampled			Dec 08, 2012	Dec 08, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	77	90	95	90
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchlorobenzene (surr.)	1	%	113	-	109	106
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05

Client Sample ID			BH1 0.9-1.0	BH1 6.2-6.3	BH2 0.2-0.3	BH3 1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07694	S12-De07699	S12-De07700	S12-De07707
Date Sampled			Dec 08, 2012	Dec 08, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organochlorine Pesticides (OC)						
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dibutylchloredate (surr.)	1	%	113	-	109	106
Tetrachloro-m-xylene (surr.)	1	%	91	-	87	92
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Demeton (total)	1	mg/kg	< 1	-	< 1	< 1
Diazinon	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fenthion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Malathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Monocrotophos	10	mg/kg	< 10	-	< 10	< 10
Parathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phorate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Profenofos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Ronnel	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Stirophos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Triphenylphosphate (surr.)	1	%	95	-	98	88
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH1 0.9-1.0	BH1 6.2-6.3	BH2 0.2-0.3	BH3 1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07694	S12-De07699	S12-De07700	S12-De07707
Date Sampled			Dec 08, 2012	Dec 08, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	106	101	105	100
p-Terphenyl-d14 (surr.)	1	%	92	87	90	85
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	3.1	7.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	46	< 5
Copper	5	mg/kg	12	< 5	24	28
Lead	5	mg/kg	6.3	15	33	38
Mercury	0.05	mg/kg	< 0.05	< 0.05	0.07	0.07
Nickel	5	mg/kg	< 5	< 5	47	15
Zinc	5	mg/kg	< 5	< 5	84	68
% Moisture	0.1	%	19	17	11	21
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH4 0.4-0.5	BH4 4.9-5.0	BH5 0.4-0.5	BH5 3.8-3.9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07711	S12-De07716	S12-De07717	S12-De07720
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5

Client Sample ID			BH4 0.4-0.5	BH4 4.9-5.0	BH5 0.4-0.5	BH5 3.8-3.9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07711	S12-De07716	S12-De07717	S12-De07720
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
BTEX						
4-Bromofluorobenzene (surr.)	1	%	91	87	66	79
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchloredate (surr.)	1	%	112	-	112	-
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDT	0.2	mg/kg	< 0.2	-	< 0.2	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
a-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
g-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Dibutylchloredate (surr.)	1	%	112	-	112	-
Tetrachloro-m-xylene (surr.)	1	%	93	-	93	-
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	-	< 0.5	-
Coumaphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Demeton (total)	1	mg/kg	< 1	-	< 1	-
Diazinon	0.5	mg/kg	< 0.5	-	< 0.5	-
Dichlorvos	0.5	mg/kg	< 0.5	-	< 0.5	-
Dimethoate	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH4 0.4-0.5	BH4 4.9-5.0	BH5 0.4-0.5	BH5 3.8-3.9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07711	S12-De07716	S12-De07717	S12-De07720
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organophosphorus Pesticides (OP)						
Disulfoton	0.5	mg/kg	< 0.5	-	< 0.5	-
Ethoprop	0.5	mg/kg	< 0.5	-	< 0.5	-
Fenitrothion	0.5	mg/kg	< 0.5	-	< 0.5	-
Fensulfothion	0.5	mg/kg	< 0.5	-	< 0.5	-
Fenthion	0.5	mg/kg	< 0.5	-	< 0.5	-
Methyl azinphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Malathion	0.5	mg/kg	< 0.5	-	< 0.5	-
Methyl parathion	0.5	mg/kg	< 0.5	-	< 0.5	-
Mevinphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Monocrotophos	10	mg/kg	< 10	-	< 10	-
Parathion	0.5	mg/kg	< 0.5	-	< 0.5	-
Phorate	0.5	mg/kg	< 0.5	-	< 0.5	-
Profenofos	0.5	mg/kg	< 0.5	-	< 0.5	-
Prothiofos	0.5	mg/kg	< 0.5	-	< 0.5	-
Ronnel	0.5	mg/kg	< 0.5	-	< 0.5	-
Stirophos	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichloronate	0.5	mg/kg	< 0.5	-	< 0.5	-
Triphenylphosphate (surr.)	1	%	96	-	88	-
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.1
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	1.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.0
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.0
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.4
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	2.6
Total PAH	1	mg/kg	< 1	< 1	< 1	15
2-Fluorobiphenyl (surr.)	1	%	106	104	100	97
p-Terphenyl-d14 (surr.)	1	%	90	90	87	87
Heavy Metals						
Arsenic	2	mg/kg	9.8	7.5	< 2	15
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.7
Chromium	5	mg/kg	< 5	< 5	< 5	< 5
Copper	5	mg/kg	14	11	7.3	230
Lead	5	mg/kg	18	17	12	120
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	0.14
Nickel	5	mg/kg	< 5	< 5	< 5	14
Zinc	5	mg/kg	28	16	7.0	250
% Moisture	0.1	%	18	23	18	16
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH6 0.9-1.0	BH7 1.9-2.0	BH7 4.9-5.0	BH8 3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07722	S12-De07729	S12-De07732	S12-De07736
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	86	96	95	90
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchloredate (surr.)	1	%	122	115	-	118
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			BH6 0.9-1.0	BH7 1.9-2.0	BH7 4.9-5.0	BH8 3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07722	S12-De07729	S12-De07732	S12-De07736
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organochlorine Pesticides (OC)						
g-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchloredate (surr.)	1	%	122	115	-	118
Tetrachloro-m-xylene (surr.)	1	%	99	92	-	97
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Demeton (total)	1	mg/kg	< 1	< 1	-	< 1
Diazinon	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenthion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Malathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Monocrotophos	10	mg/kg	< 10	< 10	-	< 10
Parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phorate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Profenofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ronnel	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Stirophos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Triphenylphosphate (surr.)	1	%	85	87	-	91
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			BH6 0.9-1.0	BH7 1.9-2.0	BH7 4.9-5.0	BH8 3.9-4.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07722	S12-De07729	S12-De07732	S12-De07736
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
2-Fluorobiphenyl (surr.)	1	%	99	93	90	88
p-Terphenyl-d14 (surr.)	1	%	85	85	85	89
Heavy Metals						
Arsenic	2	mg/kg	9.0	4.1	7.1	12
Cadmium	0.4	mg/kg	0.8	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.1	8.1	< 5	< 5
Copper	5	mg/kg	12	5.5	7.8	19
Lead	5	mg/kg	20	9.5	11	15
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	42	7.3	< 5	27
% Moisture	0.1	%	18	19	18	20
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH9 0.9-1.0	BH9 4.9-5.0	BH10 0.9-1.0	BH10 2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07738	S12-De07742	S12-De07744	S12-De07746
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	95	97	95	97
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH9 0.9-1.0	BH9 4.9-5.0	BH10 0.9-1.0	BH10 2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07738	S12-De07742	S12-De07744	S12-De07746
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchloredate (surr.)	1	%	118	-	106	-
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4,4'-DDT	0.2	mg/kg	< 0.2	-	< 0.2	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
a-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
g-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Dibutylchloredate (surr.)	1	%	118	-	106	-
Tetrachloro-m-xylene (surr.)	1	%	93	-	85	-
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	-	< 0.5	-
Coumaphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Demeton (total)	1	mg/kg	< 1	-	< 1	-
Diazinon	0.5	mg/kg	< 0.5	-	< 0.5	-
Dichlorvos	0.5	mg/kg	< 0.5	-	< 0.5	-
Dimethoate	0.5	mg/kg	< 0.5	-	< 0.5	-
Disulfoton	0.5	mg/kg	< 0.5	-	< 0.5	-
Ethoprop	0.5	mg/kg	< 0.5	-	< 0.5	-
Fenitrothion	0.5	mg/kg	< 0.5	-	< 0.5	-
Fensulfothion	0.5	mg/kg	< 0.5	-	< 0.5	-
Fenthion	0.5	mg/kg	< 0.5	-	< 0.5	-
Methyl azinphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Malathion	0.5	mg/kg	< 0.5	-	< 0.5	-
Methyl parathion	0.5	mg/kg	< 0.5	-	< 0.5	-
Mevinphos	0.5	mg/kg	< 0.5	-	< 0.5	-
Monocrotophos	10	mg/kg	< 10	-	< 10	-
Parathion	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH9 0.9-1.0	BH9 4.9-5.0	BH10 0.9-1.0	BH10 2.9-3.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07738	S12-De07742	S12-De07744	S12-De07746
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organophosphorus Pesticides (OP)						
Phorate	0.5	mg/kg	< 0.5	-	< 0.5	-
Profenofos	0.5	mg/kg	< 0.5	-	< 0.5	-
Prothiofos	0.5	mg/kg	< 0.5	-	< 0.5	-
Ronnel	0.5	mg/kg	< 0.5	-	< 0.5	-
Stirophos	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichloronate	0.5	mg/kg	< 0.5	-	< 0.5	-
Triphenylphosphate (surr.)	1	%	94	-	90	-
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	105	92	98	93
p-Terphenyl-d14 (surr.)	1	%	89	88	88	90
Heavy Metals						
Arsenic	2	mg/kg	7.9	9.2	12	6.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	8.9	< 5
Copper	5	mg/kg	56	11	6.9	7.2
Lead	5	mg/kg	18	10	22	12
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	51	< 5	10	5.4
% Moisture	0.1	%	21	17	23	20
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH11 0.2-0.3	BH12 0.9-1.0	BH12 2.4-2.5	BH13 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07747	S12-De07753	S12-De07754	S12-De07755
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	99	99	101	105
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchloredate (surr.)	1	%	100	109	-	100
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			BH11 0.2-0.3	BH12 0.9-1.0	BH12 2.4-2.5	BH13 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07747	S12-De07753	S12-De07754	S12-De07755
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Organochlorine Pesticides (OC)						
g-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchloredate (surr.)	1	%	100	109	-	100
Tetrachloro-m-xylene (surr.)	1	%	83	91	-	86
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Demeton (total)	1	mg/kg	< 1	< 1	-	< 1
Diazinon	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenthion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Malathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Monocrotophos	10	mg/kg	< 10	< 10	-	< 10
Parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phorate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Profenofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ronnel	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Stirophos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Triphenylphosphate (surr.)	1	%	89	93	-	88
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			BH11 0.2-0.3	BH12 0.9-1.0	BH12 2.4-2.5	BH13 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07747	S12-De07753	S12-De07754	S12-De07755
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
2-Fluorobiphenyl (surr.)	1	%	95	95	93	101
p-Terphenyl-d14 (surr.)	1	%	90	92	95	92
Heavy Metals						
Arsenic	2	mg/kg	< 2	5.8	2.7	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5	< 5
Copper	5	mg/kg	41	< 5	8.3	64
Lead	5	mg/kg	8.1	8.5	5.9	< 5
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	54	< 5	< 5	120
Zinc	5	mg/kg	45	7.2	6.3	54
% Moisture	0.1	%	9.7	20	16	8.5
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH14 0.9-1.0	BH14 2.9-3.0	BH15 0.2-0.3	BH16 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07759	S12-De07761	S12-De07762	S12-De07765
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	95	99	99	100
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5

Client Sample ID			BH14 0.9-1.0	BH14 2.9-3.0	BH15 0.2-0.3	BH16 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07759	S12-De07761	S12-De07762	S12-De07765
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PCB	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchloredate (surr.)	1	%	108	-	105	99
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-Chlordane	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Dibutylchloredate (surr.)	1	%	108	-	105	99
Tetrachloro-m-xylene (surr.)	1	%	95	-	84	92
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Demeton (total)	1	mg/kg	< 1	-	< 1	< 1
Diazinon	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fenthion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Malathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Monocrotophos	10	mg/kg	< 10	-	< 10	< 10
Parathion	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5

Client Sample ID			BH14 0.9-1.0	BH14 2.9-3.0	BH15 0.2-0.3	BH16 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07759	S12-De07761	S12-De07762	S12-De07765
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organophosphorus Pesticides (OP)						
Phorate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Profenofos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Ronnel	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Stirophos	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Triphenylphosphate (surr.)	1	%	92	-	102	97
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	98	95	97	100
p-Terphenyl-d14 (surr.)	1	%	83	91	96	86
Heavy Metals						
Arsenic	2	mg/kg	8.2	< 2	5.0	5.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.3	< 5	11	< 5
Copper	5	mg/kg	14	57	40	42
Lead	5	mg/kg	12	23	33	14
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	47	80
Zinc	5	mg/kg	14	59	91	72
% Moisture	0.1	%	21	12	11	18
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH16 0.9-1.0	BH17 0.4-0.5	BH18 0.4-0.5	BH18 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07766	S12-De07768	S12-De07769	S12-De07770
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	93	95	89	91
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	-
Total PCB	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibutylchloroendate (surr.)	1	%	-	109	104	-
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4,4'-DDT	0.2	mg/kg	-	< 0.2	< 0.2	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
a-Chlordane	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-

Client Sample ID			BH16 0.9-1.0	BH17 0.4-0.5	BH18 0.4-0.5	BH18 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07766	S12-De07768	S12-De07769	S12-De07770
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organochlorine Pesticides (OC)						
g-Chlordane	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Dibutylchloredate (surr.)	1	%	-	109	104	-
Tetrachloro-m-xylene (surr.)	1	%	-	103	102	-
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	-	< 0.5	< 0.5	-
Coumaphos	0.5	mg/kg	-	< 0.5	< 0.5	-
Demeton (total)	1	mg/kg	-	< 1	< 1	-
Diazinon	0.5	mg/kg	-	< 0.5	< 0.5	-
Dichlorvos	0.5	mg/kg	-	< 0.5	< 0.5	-
Dimethoate	0.5	mg/kg	-	< 0.5	< 0.5	-
Disulfoton	0.5	mg/kg	-	< 0.5	< 0.5	-
Ethoprop	0.5	mg/kg	-	< 0.5	< 0.5	-
Fenitrothion	0.5	mg/kg	-	< 0.5	< 0.5	-
Fensulfothion	0.5	mg/kg	-	< 0.5	< 0.5	-
Fenthion	0.5	mg/kg	-	< 0.5	< 0.5	-
Methyl azinphos	0.5	mg/kg	-	< 0.5	< 0.5	-
Malathion	0.5	mg/kg	-	< 0.5	< 0.5	-
Methyl parathion	0.5	mg/kg	-	< 0.5	< 0.5	-
Mevinphos	0.5	mg/kg	-	< 0.5	< 0.5	-
Monocrotophos	10	mg/kg	-	< 10	< 10	-
Parathion	0.5	mg/kg	-	< 0.5	< 0.5	-
Phorate	0.5	mg/kg	-	< 0.5	< 0.5	-
Profenofos	0.5	mg/kg	-	< 0.5	< 0.5	-
Prothiofos	0.5	mg/kg	-	< 0.5	< 0.5	-
Ronnel	0.5	mg/kg	-	< 0.5	< 0.5	-
Stirophos	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichloronate	0.5	mg/kg	-	< 0.5	< 0.5	-
Triphenylphosphate (surr.)	1	%	-	97	95	-
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			BH16 0.9-1.0	BH17 0.4-0.5	BH18 0.4-0.5	BH18 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07766	S12-De07768	S12-De07769	S12-De07770
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
2-Fluorobiphenyl (surr.)	1	%	92	95	96	95
p-Terphenyl-d14 (surr.)	1	%	90	96	100	98
Heavy Metals						
Arsenic	2	mg/kg	10	4.0	7.3	10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5	< 5
Copper	5	mg/kg	< 5	7.1	15	9.7
Lead	5	mg/kg	11	12	11	16
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	7.3	< 5	28	7.8
% Moisture	0.1	%	18	24	21	21
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH19 0.4-0.5	BH20 0.2-0.3	BH20 0.6-0.7	BH23 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07771	S12-De07773	S12-De07774	S12-De07776
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	87	90	91	87
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			BH19 0.4-0.5	BH20 0.2-0.3	BH20 0.6-0.7	BH23 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07771	S12-De07773	S12-De07774	S12-De07776
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchloredate (surr.)	1	%	114	106	-	106
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-Chlordane	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchloredate (surr.)	1	%	114	106	-	106
Tetrachloro-m-xylene (surr.)	1	%	102	95	-	97
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Demeton (total)	1	mg/kg	< 1	< 1	-	< 1
Diazinon	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fenthion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Malathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Monocrotophos	10	mg/kg	< 10	< 10	-	< 10
Parathion	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			BH19 0.4-0.5	BH20 0.2-0.3	BH20 0.6-0.7	BH23 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07771	S12-De07773	S12-De07774	S12-De07776
Date Sampled			Dec 09, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organophosphorus Pesticides (OP)						
Phorate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Profenofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Ronnel	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Stirophos	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Triphenylphosphate (surr.)	1	%	95	94	-	86
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	97	91	94	82
p-Terphenyl-d14 (surr.)	1	%	103	87	88	73
Heavy Metals						
Arsenic	2	mg/kg	12	2.3	4.9	9.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	< 5	< 5	< 5
Copper	5	mg/kg	12	9.7	7.3	15
Lead	5	mg/kg	13	8.3	7.3	6.1
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	19	6.2	< 5	35
% Moisture	0.1	%	27	19	13	17
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			BH23 0.75-0.85	BH24 0.4-0.5	BH24 2.9-3.0	BH25 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07777	S12-De07778	S12-De07781	S12-De07782
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 08, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	91	89	88	87
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibutylchloroendate (surr.)	1	%	-	104	-	95
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4,4'-DDT	0.2	mg/kg	-	< 0.2	-	< 0.2
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
a-Chlordane	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			BH23 0.75-0.85	BH24 0.4-0.5	BH24 2.9-3.0	BH25 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07777	S12-De07778	S12-De07781	S12-De07782
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 08, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Organochlorine Pesticides (OC)						
g-Chlordane	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Dibutylchloredate (surr.)	1	%	-	104	-	95
Tetrachloro-m-xylene (surr.)	1	%	-	95	-	87
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	-	< 0.5	-	< 0.5
Coumaphos	0.5	mg/kg	-	< 0.5	-	< 0.5
Demeton (total)	1	mg/kg	-	< 1	-	< 1
Diazinon	0.5	mg/kg	-	< 0.5	-	< 0.5
Dichlorvos	0.5	mg/kg	-	< 0.5	-	< 0.5
Dimethoate	0.5	mg/kg	-	< 0.5	-	< 0.5
Disulfoton	0.5	mg/kg	-	< 0.5	-	< 0.5
Ethoprop	0.5	mg/kg	-	< 0.5	-	< 0.5
Fenitrothion	0.5	mg/kg	-	< 0.5	-	< 0.5
Fensulfothion	0.5	mg/kg	-	< 0.5	-	< 0.5
Fenthion	0.5	mg/kg	-	< 0.5	-	< 0.5
Methyl azinphos	0.5	mg/kg	-	< 0.5	-	< 0.5
Malathion	0.5	mg/kg	-	< 0.5	-	< 0.5
Methyl parathion	0.5	mg/kg	-	< 0.5	-	< 0.5
Mevinphos	0.5	mg/kg	-	< 0.5	-	< 0.5
Monocrotophos	10	mg/kg	-	< 10	-	< 10
Parathion	0.5	mg/kg	-	< 0.5	-	< 0.5
Phorate	0.5	mg/kg	-	< 0.5	-	< 0.5
Profenofos	0.5	mg/kg	-	< 0.5	-	< 0.5
Prothiofos	0.5	mg/kg	-	< 0.5	-	< 0.5
Ronnel	0.5	mg/kg	-	< 0.5	-	< 0.5
Stirophos	0.5	mg/kg	-	< 0.5	-	< 0.5
Trichloronate	0.5	mg/kg	-	< 0.5	-	< 0.5
Triphenylphosphate (surr.)	1	%	-	89	-	99
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	1.2
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.7
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.6
Total PAH	1	mg/kg	< 1	< 1	< 1	7.8

Client Sample ID			BH23 0.75-0.85	BH24 0.4-0.5	BH24 2.9-3.0	BH25 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07777	S12-De07778	S12-De07781	S12-De07782
Date Sampled			Dec 09, 2012	Dec 08, 2012	Dec 08, 2012	Dec 08, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
2-Fluorobiphenyl (surr.)	1	%	96	97	95	94
p-Terphenyl-d14 (surr.)	1	%	95	98	98	101
Heavy Metals						
Arsenic	2	mg/kg	6.1	2.8	16	6.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.5	< 5	< 5	< 5
Copper	5	mg/kg	21	7.0	23	30
Lead	5	mg/kg	10	10	14	23
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	7.6	< 5	< 5	5.8
Zinc	5	mg/kg	50	< 5	14	42
% Moisture	0.1	%	18	17	18	15
Asbestos			See attached	See attached	See attached	See attached

Client Sample ID			DUP 2	DUP 4	DUP 6	DUP 9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07787	S12-De07788	S12-De07791	S12-De07796
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total m+p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	86	89	92	97
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polychlorinated Biphenyls (PCB)						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			DUP 2	DUP 4	DUP 6	DUP 9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07787	S12-De07788	S12-De07791	S12-De07796
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls (PCB)						
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchloredate (surr.)	1	%	104	107	91	92
Organochlorine Pesticides (OC)						
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-Chlordane	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-Chlordane	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchloredate (surr.)	1	%	104	107	91	92
Tetrachloro-m-xylene (surr.)	1	%	91	97	102	102
Organophosphorus Pesticides (OP)						
Chlorpyrifos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Coumaphos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Demeton (total)	1	mg/kg	< 1	< 1	< 1	< 1
Diazinon	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorvos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dimethoate	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Disulfoton	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethoprop	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fenthion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Malathion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Mevinphos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Monocrotophos	10	mg/kg	< 10	< 10	< 10	< 10
Parathion	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			DUP 2	DUP 4	DUP 6	DUP 9
Sample Matrix			Soil	Soil	Soil	Soil
mgt-LabMark Sample No.			S12-De07787	S12-De07788	S12-De07791	S12-De07796
Date Sampled			Dec 08, 2012	Dec 09, 2012	Dec 09, 2012	Dec 09, 2012
Test/Reference	LOR	Unit				
Organophosphorus Pesticides (OP)						
Phorate	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Profenofos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Prothiofos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ronnel	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Stirophos	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Trichloronate	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Triphenylphosphate (surr.)	1	%	96	90	88	88
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	98	88	88	93
p-Terphenyl-d14 (surr.)	1	%	102	82	88	94
Heavy Metals						
Arsenic	2	mg/kg	9.1	11	4.1	17
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	5.7	< 5	< 5
Copper	5	mg/kg	33	28	< 5	12
Lead	5	mg/kg	22	24	10	11
Mercury	0.05	mg/kg	< 0.05	< 0.05	0.05	< 0.05
Nickel	5	mg/kg	5.5	< 5	< 5	6.0
Zinc	5	mg/kg	56	25	7.8	43
% Moisture	0.1	%	20	20	18	22

Client Sample ID			TS	TB
Sample Matrix			Soil	Soil
mgt-LabMark Sample No.			S12-De07799	S12-De07800
Date Sampled			Dec 06, 2012	Dec 06, 2012
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	10	mg/kg	83%	< 10

Client Sample ID			TS	TB
Sample Matrix			Soil	Soil
mgt-LabMark Sample No.			S12-De07799	S12-De07800
Date Sampled			Dec 06, 2012	Dec 06, 2012
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.5	mg/kg	84%	< 0.5
Toluene	0.5	mg/kg	93%	< 0.5
Ethylbenzene	0.5	mg/kg	98%	< 0.5
Total m+p-Xylenes	1	mg/kg	99%	< 1
o-Xylene	0.5	mg/kg	100%	< 0.5
Xylenes(ortho.meta and para)	1.5	mg/kg	99%	< 1.5
Total BTEX	1.5	mg/kg	96%	< 1.5
4-Bromofluorobenzene (surr.)	1	%	115	103

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: E004 Petroleum Hydrocarbons (TPH)	Sydney	Dec 11, 2012	14 Day
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * - Method: LM-LTM-ORG2010	Sydney	Dec 11, 2012	14 Day
BTEX - Method: E029/E016 BTEX	Sydney	Dec 11, 2012	14 Day
Polychlorinated Biphenyls (PCB) - Method: E013 Polychlorinated Biphenyls (PCB)	Sydney	Dec 11, 2012	14 Day
Organochlorine Pesticides (OC) - Method: E013 Organochlorine Pesticides (OC)	Sydney	Dec 11, 2012	14 Day
Organophosphorus Pesticides (OP) - Method: E014 Organophosphorus Pesticides (OP)	Sydney	Dec 11, 2012	14 Day
Polyaromatic Hydrocarbons (PAH) - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 11, 2012	14 Day
Metals M8 - Method: E022 Acid Extractable metals in Soils & E026 Mercury	Sydney	Dec 11, 2012	28 Day
% Moisture - Method: E005 Moisture Content	Sydney	Dec 11, 2012	28 Day

Sample Receipt Advice

Company name: **Coffey Environments Pty Ltd NSW**
Contact name: **Fiona Wong**
Client job number: **ILC ENFIELD ENAURHOD04419AA**
COC number: **103855-103861**
Turn around time: **3 Day**
Date/Time received: **Dec 11, 2012 9:00 AM**
mgt-LabMark reference: **362590**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by mgt-LabMark
Sample Receipt : 5 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Organic samples had Teflon liners.
- ☒ Sample containers for volatile analysis received with zero headspace.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Asbestos conducted at ASET| Samples DUP 2A and DUP 6A forwarded to Envirolab as requested

Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: jean.heng@mgtlabmark.com.au

Results will be delivered electronically via e.mail to Fiona Wong - fiona_wong@coffey.com.

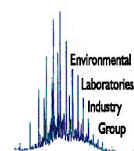
mgt-LabMark Sample Receipt



Environmental Laboratory
Air Analysis
Water Analysis
Soil Contamination Analysis

NATA Accreditation
Stack Emission Sampling & Analysis
Trade Waste Sampling & Analysis
Groundwater Sampling & Analysis

35Years of Environmental Analysis & Experience – fully Australian Owned



Company Name: Coffey Environments Pty Ltd NSW
Address: Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
BH1 0.4-0.5	Dec 08, 2012		Soil	S12-De07693				X									
BH1 0.9-1.0	Dec 08, 2012		Soil	S12-De07694	X	X				X		X	X	X	X	X	X
BH1 1.5-1.6	Dec 08, 2012		Soil	S12-De07695				X									
BH1 2.1-2.2	Dec 08, 2012		Soil	S12-De07696				X									
BH1 2.9-3.0	Dec 08, 2012		Soil	S12-De07697				X									
BH1 4.9- 5.0	Dec 08, 2012		Soil	S12-De07698				X									
BH1 6.2-6.3	Dec 08, 2012		Soil	S12-De07699	X	X				X		X				X	X
BH2 0.2-0.3	Dec 08, 2012		Soil	S12-De07700	X	X				X		X	X	X	X	X	X
BH2 0.9-1.0	Dec 08, 2012		Soil	S12-De07701				X									
BH2 1.9-2.0	Dec 08, 2012		Soil	S12-De07702				X									

Company Name: Coffey Environments Pty Ltd NSW
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Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH2 3.9-4.0	Dec 08, 2012		Soil	S12-De07703				X									
BH2 4.9-5.0	Dec 08, 2012		Soil	S12-De07704				X									
BH3 0.2-0.3	Dec 09, 2012		Soil	S12-De07705				X									
BH3 0.9-1.0	Dec 09, 2012		Soil	S12-De07706				X									
BH3 1.9-2.0	Dec 09, 2012		Soil	S12-De07707	X	X				X		X	X	X	X	X	X
BH3 2.9-3.0	Dec 09, 2012		Soil	S12-De07708				X									
BH3 3.9-4.0	Dec 09, 2012		Soil	S12-De07709				X									
BH3 4.9-5.0	Dec 09, 2012		Soil	S12-De07710				X									
BH4 0.4-0.5	Dec 09, 2012		Soil	S12-De07711	X	X				X		X	X	X	X	X	X
BH4 0.9-1.0	Dec 09, 2012		Soil	S12-De07712				X									
BH4 1.9-2.0	Dec 09, 2012		Soil	S12-De07713				X									

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Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH4 2.9-3.0	Dec 09, 2012		Soil	S12-De07714				X									
BH4 3.9-4.0	Dec 09, 2012		Soil	S12-De07715				X									
BH4 4.9-5.0	Dec 09, 2012		Soil	S12-De07716	X	X				X		X				X	X
BH5 0.4-0.5	Dec 08, 2012		Soil	S12-De07717	X	X				X		X	X	X	X	X	X
BH5 0.9-1.0	Dec 09, 2012		Soil	S12-De07718				X									
BH5 2.1-2.2	Dec 09, 2012		Soil	S12-De07719				X									
BH5 3.8-3.9	Dec 09, 2012		Soil	S12-De07720	X	X				X		X				X	X
BH6 0.4-0.5	Dec 09, 2012		Soil	S12-De07721				X									
BH6 0.9-1.0	Dec 09, 2012		Soil	S12-De07722	X	X				X		X	X	X	X	X	X
BH6 2.3-2.4	Dec 09, 2012		Soil	S12-De07723				X									
BH6 2.9-3.0	Dec 09, 2012		Soil	S12-De07724				X									

Company Name: Coffey Environments Pty Ltd NSW
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Chatswood
NSW 2067

Client Job No.: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH6 3.9-4.0	Dec 09, 2012		Soil	S12-De07725				X									
BH6 4.9-5.0	Dec 09, 2012		Soil	S12-De07726				X									
BH7 0.4-0.5	Dec 09, 2012		Soil	S12-De07727				X									
BH7 0.9-1.0	Dec 09, 2012		Soil	S12-De07728				X									
BH7 1.9-2.0	Dec 09, 2012		Soil	S12-De07729	X	X				X		X	X	X	X	X	X
BH7 2.9-3.0	Dec 09, 2012		Soil	S12-De07730				X									
BH7 3.9-4.0	Dec 09, 2012		Soil	S12-De07731				X									
BH7 4.9-5.0	Dec 09, 2012		Soil	S12-De07732	X	X				X		X				X	X
BH8 0.4-0.5	Dec 09, 2012		Soil	S12-De07733				X									
BH8 0.9-1.0	Dec 09, 2012		Soil	S12-De07734				X									
BH8 2.9-3.0	Dec 09, 2012		Soil	S12-De07735				X									

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Client Job No.: ILC ENFIELD ENAURHOD04419AA

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Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH8 3.9-4.0	Dec 09, 2012		Soil	S12-De07736	X	X				X		X	X	X	X	X	X
BH9 0.4-0.5	Dec 08, 2012		Soil	S12-De07737				X									
BH9 0.9-1.0	Dec 09, 2012		Soil	S12-De07738	X	X				X		X	X	X	X	X	X
BH9 1.9-2.0	Dec 09, 2012		Soil	S12-De07739				X									
BH9 2.9-3.0	Dec 09, 2012		Soil	S12-De07740				X									
BH9 3.9-4.0	Dec 09, 2012		Soil	S12-De07741				X									
BH9 4.9-5.0	Dec 09, 2012		Soil	S12-De07742	X	X				X		X				X	X
BH10 0.4-0.5	Dec 09, 2012		Soil	S12-De07743				X									
BH10 0.9-1.0	Dec 09, 2012		Soil	S12-De07744	X	X				X		X	X	X	X	X	X
BH10 1.9-2.0	Dec 09, 2012		Soil	S12-De07745				X									
BH10 2.9-3.0	Dec 09, 2012		Soil	S12-De07746	X	X				X		X				X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH11 0.2-0.3	Dec 08, 2012		Soil	S12-De07747	X	X				X		X	X	X	X	X	X
BH11 0.9-1.0	Dec 08, 2012		Soil	S12-De07748				X									
BH11 1.9-2.0	Dec 08, 2012		Soil	S12-De07749				X									
BH11 2.9-3.0	Dec 08, 2012		Soil	S12-De07750				X									
BH12 0.2-0.3	Dec 09, 2012		Soil	S12-De07751				X									
BH12 1.9-2.0	Dec 09, 2012		Soil	S12-De07752				X									
BH12 0.9-1.0	Dec 09, 2012		Soil	S12-De07753	X	X				X		X	X	X	X	X	X
BH12 2.4-2.5	Dec 09, 2012		Soil	S12-De07754	X	X				X		X				X	X
BH13 0.4-0.5	Dec 08, 2012		Soil	S12-De07755	X	X				X		X	X	X	X	X	X
BH13 0.9-1.0	Dec 08, 2012		Soil	S12-De07756				X									
BH13 1.7-1.8	Dec 08, 2012		Soil	S12-De07757				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH14 0.4-0.5	Dec 09, 2012		Soil	S12-De07758				X									
BH14 0.9-1.0	Dec 09, 2012		Soil	S12-De07759	X	X				X		X	X	X	X	X	X
BH14 1.9-2.0	Dec 09, 2012		Soil	S12-De07760				X									
BH14 2.9-3.0	Dec 08, 2012		Soil	S12-De07761	X	X				X		X				X	X
BH15 0.2-0.3	Dec 09, 2012		Soil	S12-De07762	X	X				X		X	X	X	X	X	X
BH15 0.9-1.0	Dec 09, 2012		Soil	S12-De07763				X									
BH15 1.7-1.8	Dec 09, 2012		Soil	S12-De07764				X									
BH16 0.4-0.5	Dec 09, 2012		Soil	S12-De07765	X	X				X		X	X	X	X	X	X
BH16 0.9-1.0	Dec 09, 2012		Soil	S12-De07766	X	X				X		X				X	X
BH16 1.4-1.5	Dec 09, 2012		Soil	S12-De07767				X									
BH17 0.4-0.5	Dec 09, 2012		Soil	S12-De07768	X	X				X		X	X	X	X	X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH18 0.4-0.5	Dec 09, 2012		Soil	S12-De07769	X	X				X		X	X	X	X	X	X
BH18 0.9-1.0	Dec 09, 2012		Soil	S12-De07770	X	X				X		X				X	X
BH19 0.4-0.5	Dec 09, 2012		Soil	S12-De07771	X	X				X		X	X	X	X	X	X
BH19 0.8-0.9	Dec 09, 2012		Soil	S12-De07772				X									
BH20 0.2-0.3	Dec 09, 2012		Soil	S12-De07773	X	X				X		X	X	X	X	X	X
BH20 0.6-0.7	Dec 09, 2012		Soil	S12-De07774	X	X				X		X				X	X
BH21 0.4-0.5	Dec 09, 2012		Soil	S12-De07775			X										
BH23 0.4-0.5	Dec 09, 2012		Soil	S12-De07776	X	X				X		X	X	X	X	X	X
BH23 0.75-0.85	Dec 09, 2012		Soil	S12-De07777	X	X				X		X				X	X
BH24 0.4-0.5	Dec 08, 2012		Soil	S12-De07778	X	X				X		X	X	X	X	X	X
BH24 0.9-1.0	Dec 08, 2012		Soil	S12-De07779				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH24 1.9-2.0	Dec 08, 2012		Soil	S12-De07780				X									
BH24 2.9-3.0	Dec 08, 2012		Soil	S12-De07781	X	X				X		X				X	X
BH25 0.4-0.5	Dec 08, 2012		Soil	S12-De07782	X	X				X		X	X	X	X	X	X
BH25 0.9-1.0	Dec 08, 2012		Soil	S12-De07783				X									
BH25 2.2-2.3	Dec 08, 2012		Soil	S12-De07784				X									
BH25 2.4-2.5	Dec 08, 2012		Soil	S12-De07785				X									
DUP 1	Dec 08, 2012		Soil	S12-De07786				X									
DUP 2	Dec 08, 2012		Soil	S12-De07787	X					X		X	X	X	X	X	X
DUP 4	Dec 09, 2012		Soil	S12-De07788	X					X		X	X	X	X	X	X
DUP 4A	Dec 09, 2012		Soil	S12-De07789				X									
DUP 5	Dec 09, 2012		Soil	S12-De07790				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
DUP 6	Dec 09, 2012		Soil	S12-De07791	X					X		X	X	X	X	X	X
DUP 7	Dec 09, 2012		Soil	S12-De07792				X									
DUP 3	Dec 08, 2012		Soil	S12-De07793				X									
DUP 8	Dec 09, 2012		Soil	S12-De07794				X									
DUP 8A	Dec 09, 2012		Soil	S12-De07795				X									
DUP 9	Dec 09, 2012		Soil	S12-De07796	X					X		X	X	X	X	X	X
DUP 10	Dec 09, 2012		Soil	S12-De07797				X									
DUP 10A	Dec 09, 2012		Soil	S12-De07798				X									
TS	Dec 06, 2012		Soil	S12-De07799					X			X					
TB	Dec 06, 2012		Soil	S12-De07800					X			X					
RB1	Dec 08, 2012		Water	S12-De07801							X	X	X	X	X	X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
RB2	Dec 09, 2012		Water	S12-De07802							X	X	X	X	X	X	X
BH9 0.5-0.6	Dec 09, 2012		Soil	S12-De08110				X									
BH8 0.3-0.4	Dec 09, 2012		Soil	S12-De08111				X									
BH4 0.2-0.3	Dec 09, 2012		Soil	S12-De08142				X									

mgt-LabMark Internal Quality Control Review

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC was performed on samples not pertaining to this report, however QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
3. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/kg	< 10			10	Pass	
TRH C10-C14	mg/kg	< 50			50	Pass	
TRH C15-C28	mg/kg	< 100			100	Pass	
TRH C29-C36	mg/kg	< 100			100	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.5			0.5	Pass	
Total m+p-Xylenes	mg/kg	< 1			1	Pass	
o-Xylene	mg/kg	< 0.5			0.5	Pass	
Xylenes(ortho.meta and para)	mg/kg	< 1.5			1.5	Pass	
Total BTEX	mg/kg	< 1.5			1.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB	mg/kg	0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.2			0.2	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
a-Chlordane	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
g-Chlordane	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	mg/kg	< 0.5			0.5	Pass	
Coumaphos	mg/kg	< 0.5			0.5	Pass	
Demeton (total)	mg/kg	< 1			1	Pass	
Diazinon	mg/kg	< 0.5			0.5	Pass	
Dichlorvos	mg/kg	< 0.5			0.5	Pass	
Dimethoate	mg/kg	< 0.5			0.5	Pass	
Disulfoton	mg/kg	< 0.5			0.5	Pass	
Ethoprop	mg/kg	< 0.5			0.5	Pass	
Fenitrothion	mg/kg	< 0.5			0.5	Pass	
Fensulfothion	mg/kg	< 0.5			0.5	Pass	
Fenthion	mg/kg	< 0.5			0.5	Pass	
Methyl azinphos	mg/kg	< 0.5			0.5	Pass	
Malathion	mg/kg	< 0.5			0.5	Pass	
Methyl parathion	mg/kg	< 0.5			0.5	Pass	
Mevinphos	mg/kg	< 0.5			0.5	Pass	
Monocrotophos	mg/kg	< 10			10	Pass	
Parathion	mg/kg	< 0.5			0.5	Pass	
Phorate	mg/kg	< 0.5			0.5	Pass	
Profenofos	mg/kg	< 0.5			0.5	Pass	
Prothiofos	mg/kg	< 0.5			0.5	Pass	
Ronnel	mg/kg	< 0.5			0.5	Pass	
Stirophos	mg/kg	< 0.5			0.5	Pass	
Trichloronate	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/kg	< 1			1	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	%	86			70-130	Pass	
TRH C10-C14	%	81			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	84			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
Total m+p-Xylenes	%	88			70-130	Pass	
o-Xylene	%	90			70-130	Pass	
Xylenes(ortho.meta and para)	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	%	79			70-130	Pass	
TRH C6-C10	%	85			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	72			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4,4'-DDD	%	93			70-130	Pass	
4,4'-DDE	%	80			70-130	Pass	
4,4'-DDT	%	99			70-130	Pass	
a-BHC	%	91			70-130	Pass	
a-Chlordane	%	78			70-130	Pass	
Aldrin	%	102			70-130	Pass	
b-BHC	%	97			70-130	Pass	
d-BHC	%	81			70-130	Pass	
Dieldrin	%	71			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	95			70-130	Pass	
Endosulfan sulphate	%	115			70-130	Pass	
Endrin	%	98			70-130	Pass	
Endrin aldehyde	%	82			70-130	Pass	
Endrin ketone	%	89			70-130	Pass	
g-BHC (Lindane)	%	82			70-130	Pass	
g-Chlordane	%	79			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	81			70-130	Pass	
Hexachlorobenzene	%	96			70-130	Pass	
Methoxychlor	%	94			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	%	105			70-130	Pass	
Coumaphos	%	91			70-130	Pass	
Diazinon	%	105			70-130	Pass	
Dichlorvos	%	101			70-130	Pass	
Dimethoate	%	103			70-130	Pass	
Disulfoton	%	105			70-130	Pass	
Ethoprop	%	106			70-130	Pass	

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fenitrothion				%	97			70-130	Pass	
Fensulfiothion				%	86			70-130	Pass	
Fenthion				%	103			70-130	Pass	
Methyl azinphos				%	84			70-130	Pass	
Malathion				%	100			70-130	Pass	
Methyl parathion				%	98			70-130	Pass	
Mevinphos				%	106			70-130	Pass	
Monocrotophos				%	102			70-130	Pass	
Parathion				%	105			70-130	Pass	
Phorate				%	107			70-130	Pass	
Profenofos				%	100			70-130	Pass	
Prothiofos				%	103			70-130	Pass	
Ronnel				%	106			70-130	Pass	
Stirophos				%	102			70-130	Pass	
Trichloronate				%	106			70-130	Pass	
LCS - % Recovery										
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)										
Acenaphthene				%	117			70-130	Pass	
Acenaphthylene				%	122			70-130	Pass	
Anthracene				%	115			70-130	Pass	
Benz(a)anthracene				%	100			70-130	Pass	
Benzo(a)pyrene				%	102			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene				%	107			70-130	Pass	
Benzo(g,h,i)perylene				%	105			70-130	Pass	
Chrysene				%	117			70-130	Pass	
Dibenz(a,h)anthracene				%	102			70-130	Pass	
Fluoranthene				%	114			70-130	Pass	
Fluorene				%	115			70-130	Pass	
Indeno(1,2,3-cd)pyrene				%	113			70-130	Pass	
Naphthalene				%	123			70-130	Pass	
Phenanthrene				%	116			70-130	Pass	
Pyrene				%	118			70-130	Pass	
LCS - % Recovery										
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury										
Arsenic				%	92			70-130	Pass	
Cadmium				%	84			70-130	Pass	
Chromium				%	87			70-130	Pass	
Copper				%	71			70-130	Pass	
Lead				%	92			70-130	Pass	
Mercury				%	97			70-130	Pass	
Nickel				%	86			70-130	Pass	
Zinc				%	95			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1						
TRH C6-C9	S12-De07694	CP	%	89				70-130	Pass	
TRH C10-C14	S12-De07694	CP	%	80				70-130	Pass	
Spike - % Recovery										
BTEX				Result 1						
Benzene	S12-De07694	CP	%	97				70-130	Pass	
Toluene	S12-De07694	CP	%	98				70-130	Pass	
Ethylbenzene	S12-De07694	CP	%	99				70-130	Pass	
Total m+p-Xylenes	S12-De07694	CP	%	98				70-130	Pass	
o-Xylene	S12-De07694	CP	%	97				70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Xylenes(ortho.meta and para)	S12-De07694	CP	%	98		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1				
Naphthalene	S12-De07694	CP	%	76		70-130	Pass	
TRH C6-C10	S12-De07694	CP	%	89		70-130	Pass	
TRH >C10-C16	S12-De07694	CP	%	85		70-130	Pass	
Spike - % Recovery								
Polychlorinated Biphenyls (PCB)				Result 1				
Aroclor-1260	S12-De07694	CP	%	80		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides (OC)				Result 1				
4,4'-DDD	S12-De07694	CP	%	123		70-130	Pass	
4,4'-DDE	S12-De07694	CP	%	102		70-130	Pass	
4,4'-DDT	S12-De07694	CP	%	97		70-130	Pass	
a-BHC	S12-De07694	CP	%	104		70-130	Pass	
a-Chlordane	S12-De07694	CP	%	102		70-130	Pass	
Aldrin	S12-De07694	CP	%	103		70-130	Pass	
b-BHC	S12-De07694	CP	%	106		70-130	Pass	
d-BHC	S12-De07694	CP	%	104		70-130	Pass	
Dieldrin	S12-De07694	CP	%	92		70-130	Pass	
Endosulfan I	S12-De07694	CP	%	102		70-130	Pass	
Endosulfan II	S12-De07694	CP	%	100		70-130	Pass	
Endosulfan sulphate	S12-De07694	CP	%	97		70-130	Pass	
Endrin	S12-De07694	CP	%	107		70-130	Pass	
Endrin aldehyde	S12-De07694	CP	%	94		70-130	Pass	
Endrin ketone	S12-De07694	CP	%	96		70-130	Pass	
g-BHC (Lindane)	S12-De07694	CP	%	107		70-130	Pass	
g-Chlordane	S12-De07694	CP	%	98		70-130	Pass	
Heptachlor	S12-De07694	CP	%	106		70-130	Pass	
Heptachlor epoxide	S12-De07694	CP	%	104		70-130	Pass	
Hexachlorobenzene	S12-De07694	CP	%	111		70-130	Pass	
Methoxychlor	S12-De07694	CP	%	97		70-130	Pass	
Spike - % Recovery								
Organophosphorus Pesticides (OP)				Result 1				
Chlorpyrifos	S12-De07694	CP	%	107		70-130	Pass	
Coumaphos	S12-De07694	CP	%	78		70-130	Pass	
Diazinon	S12-De07694	CP	%	105		70-130	Pass	
Dichlorvos	S12-De07694	CP	%	100		70-130	Pass	
Dimethoate	S12-De07694	CP	%	90		70-130	Pass	
Disulfoton	S12-De07694	CP	%	103		70-130	Pass	
Ethoprop	S12-De07694	CP	%	108		70-130	Pass	
Fenitrothion	S12-De07694	CP	%	91		70-130	Pass	
Fensulfathion	S12-De07694	CP	%	79		70-130	Pass	
Fenthion	S12-De07694	CP	%	100		70-130	Pass	
Methyl azinphos	S12-De07694	CP	%	76		70-130	Pass	
Malathion	S12-De07694	CP	%	99		70-130	Pass	
Methyl parathion	S12-De07694	CP	%	96		70-130	Pass	
Mevinphos	S12-De07694	CP	%	100		70-130	Pass	
Monocrotophos	S12-De07694	CP	%	71		70-130	Pass	
Parathion	S12-De07694	CP	%	104		70-130	Pass	
Phorate	S12-De07694	CP	%	107		70-130	Pass	
Profenofos	S12-De07694	CP	%	99		70-130	Pass	
Prothiofos	S12-De07694	CP	%	104		70-130	Pass	
Ronnel	S12-De07694	CP	%	107		70-130	Pass	
Stirophos	S12-De07694	CP	%	95		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Trichloronate	S12-De07694	CP	%	106		70-130	Pass	
Spike - % Recovery								
Polyaromatic Hydrocarbons (PAH)				Result 1				
Acenaphthene	S12-De07694	CP	%	116		70-130	Pass	
Acenaphthylene	S12-De07694	CP	%	113		70-130	Pass	
Anthracene	S12-De07694	CP	%	109		70-130	Pass	
Benz(a)anthracene	S12-De07694	CP	%	98		70-130	Pass	
Benzo(a)pyrene	S12-De07694	CP	%	91		70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07694	CP	%	105		70-130	Pass	
Benzo(g,h,i)perylene	S12-De07694	CP	%	120		70-130	Pass	
Chrysene	S12-De07694	CP	%	113		70-130	Pass	
Dibenz(a,h)anthracene	S12-De07694	CP	%	123		70-130	Pass	
Fluoranthene	S12-De07694	CP	%	110		70-130	Pass	
Fluorene	S12-De07694	CP	%	117		70-130	Pass	
Indeno(1,2,3-cd)pyrene	S12-De07694	CP	%	127		70-130	Pass	
Naphthalene	S12-De07694	CP	%	116		70-130	Pass	
Phenanthrene	S12-De07694	CP	%	110		70-130	Pass	
Pyrene	S12-De07694	CP	%	113		70-130	Pass	
Spike - % Recovery								
Metals M8				Result 1				
Arsenic	S12-De07707	CP	%	84		70-130	Pass	
Cadmium	S12-De07707	CP	%	83		70-130	Pass	
Chromium	S12-De07707	CP	%	89		70-130	Pass	
Copper	S12-De07707	CP	%	70		70-130	Pass	
Lead	S12-De07707	CP	%	75		70-130	Pass	
Nickel	S12-De07707	CP	%	91		70-130	Pass	
Zinc	S12-De07707	CP	%	86		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C6-C9	S12-De07732	CP	%	95		70-130	Pass	
TRH C10-C14	S12-De07732	CP	%	78		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	S12-De07732	CP	%	84		70-130	Pass	
Toluene	S12-De07732	CP	%	86		70-130	Pass	
Ethylbenzene	S12-De07732	CP	%	81		70-130	Pass	
Total m+p-Xylenes	S12-De07732	CP	%	84		70-130	Pass	
o-Xylene	S12-De07732	CP	%	83		70-130	Pass	
Xylenes(ortho.meta and para)	S12-De07732	CP	%	84		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1				
Naphthalene	S12-De07732	CP	%	82		70-130	Pass	
TRH C6-C10	S12-De07732	CP	%	99		70-130	Pass	
TRH >C10-C16	S12-De07732	CP	%	83		70-130	Pass	
Spike - % Recovery								
Polyaromatic Hydrocarbons (PAH)				Result 1				
Acenaphthene	S12-De07732	CP	%	115		70-130	Pass	
Acenaphthylene	S12-De07732	CP	%	111		70-130	Pass	
Anthracene	S12-De07732	CP	%	114		70-130	Pass	
Benz(a)anthracene	S12-De07732	CP	%	92		70-130	Pass	
Benzo(a)pyrene	S12-De07732	CP	%	107		70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07732	CP	%	113		70-130	Pass	
Benzo(g,h,i)perylene	S12-De07732	CP	%	107		70-130	Pass	
Chrysene	S12-De07732	CP	%	114		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a,h)anthracene	S12-De07732	CP	%	105		70-130	Pass	
Fluoranthene	S12-De07732	CP	%	108		70-130	Pass	
Fluorene	S12-De07732	CP	%	112		70-130	Pass	
Indeno(1.2.3-cd)pyrene	S12-De07732	CP	%	115		70-130	Pass	
Naphthalene	S12-De07732	CP	%	115		70-130	Pass	
Phenanthrene	S12-De07732	CP	%	100		70-130	Pass	
Pyrene	S12-De07732	CP	%	111		70-130	Pass	
Spike - % Recovery								
Metals M8				Result 1				
Arsenic	S12-De07738	CP	%	118		70-130	Pass	
Cadmium	S12-De07738	CP	%	95		70-130	Pass	
Chromium	S12-De07738	CP	%	105		70-130	Pass	
Lead	S12-De07738	CP	%	110		70-130	Pass	
Mercury	S12-De07738	CP	%	92		70-130	Pass	
Nickel	S12-De07738	CP	%	112		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C6-C9	S12-De07759	CP	%	114		70-130	Pass	
TRH C10-C14	S12-De07759	CP	%	103		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	S12-De07759	CP	%	82		70-130	Pass	
Toluene	S12-De07759	CP	%	83		70-130	Pass	
Ethylbenzene	S12-De07759	CP	%	87		70-130	Pass	
Total m+p-Xylenes	S12-De07759	CP	%	88		70-130	Pass	
o-Xylene	S12-De07759	CP	%	89		70-130	Pass	
Xylenes(ortho.meta and para)	S12-De07759	CP	%	88		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1				
Naphthalene	S12-De07759	CP	%	84		70-130	Pass	
TRH C6-C10	S12-De07759	CP	%	110		70-130	Pass	
TRH >C10-C16	S12-De07759	CP	%	91		70-130	Pass	
Spike - % Recovery								
Polychlorinated Biphenyls (PCB)				Result 1				
Aroclor-1260	S12-De07759	CP	%	77		70-130	Pass	
Spike - % Recovery								
Organochlorine Pesticides (OC)				Result 1				
4,4'-DDD	S12-De07759	CP	%	110		70-130	Pass	
4,4'-DDE	S12-De07759	CP	%	105		70-130	Pass	
4,4'-DDT	S12-De07759	CP	%	97		70-130	Pass	
a-BHC	S12-De07759	CP	%	111		70-130	Pass	
a-Chlordane	S12-De07759	CP	%	100		70-130	Pass	
Aldrin	S12-De07759	CP	%	109		70-130	Pass	
b-BHC	S12-De07759	CP	%	116		70-130	Pass	
d-BHC	S12-De07759	CP	%	104		70-130	Pass	
Dieldrin	S12-De07759	CP	%	96		70-130	Pass	
Endosulfan I	S12-De07759	CP	%	104		70-130	Pass	
Endosulfan II	S12-De07759	CP	%	104		70-130	Pass	
Endosulfan sulphate	S12-De07759	CP	%	98		70-130	Pass	
Endrin	S12-De07759	CP	%	109		70-130	Pass	
Endrin aldehyde	S12-De07759	CP	%	101		70-130	Pass	
Endrin ketone	S12-De07759	CP	%	94		70-130	Pass	
g-BHC (Lindane)	S12-De07759	CP	%	112		70-130	Pass	
g-Chlordane	S12-De07759	CP	%	107		70-130	Pass	
Heptachlor	S12-De07759	CP	%	112		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	S12-De07759	CP	%	106		70-130	Pass	
Hexachlorobenzene	S12-De07759	CP	%	107		70-130	Pass	
Methoxychlor	S12-De07759	CP	%	99		70-130	Pass	
Spike - % Recovery								
Organophosphorus Pesticides (OP)				Result 1				
Chlorpyrifos	S12-De07759	CP	%	104		70-130	Pass	
Coumaphos	S12-De07759	CP	%	77		70-130	Pass	
Diazinon	S12-De07759	CP	%	104		70-130	Pass	
Dichlorvos	S12-De07759	CP	%	106		70-130	Pass	
Dimethoate	S12-De07759	CP	%	88		70-130	Pass	
Disulfoton	S12-De07759	CP	%	103		70-130	Pass	
Ethoprop	S12-De07759	CP	%	107		70-130	Pass	
Fenitrothion	S12-De07759	CP	%	89		70-130	Pass	
Fensulfthion	S12-De07759	CP	%	82		70-130	Pass	
Fenthion	S12-De07759	CP	%	100		70-130	Pass	
Methyl azinphos	S12-De07759	CP	%	72		70-130	Pass	
Malathion	S12-De07759	CP	%	98		70-130	Pass	
Methyl parathion	S12-De07759	CP	%	93		70-130	Pass	
Mevinphos	S12-De07759	CP	%	89		70-130	Pass	
Monocrotophos	S12-De07759	CP	%	73		70-130	Pass	
Parathion	S12-De07759	CP	%	104		70-130	Pass	
Phorate	S12-De07759	CP	%	105		70-130	Pass	
Profenofos	S12-De07759	CP	%	99		70-130	Pass	
Prothiofos	S12-De07759	CP	%	106		70-130	Pass	
Ronnel	S12-De07759	CP	%	103		70-130	Pass	
Stirophos	S12-De07759	CP	%	94		70-130	Pass	
Trichloronate	S12-De07759	CP	%	106		70-130	Pass	
Spike - % Recovery								
Polyaromatic Hydrocarbons (PAH)				Result 1				
Acenaphthene	S12-De07759	CP	%	123		70-130	Pass	
Acenaphthylene	S12-De07759	CP	%	118		70-130	Pass	
Anthracene	S12-De07759	CP	%	120		70-130	Pass	
Benz(a)anthracene	S12-De07759	CP	%	106		70-130	Pass	
Benzo(a)pyrene	S12-De07759	CP	%	109		70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07759	CP	%	111		70-130	Pass	
Benzo(g,h,i)perylene	S12-De07759	CP	%	117		70-130	Pass	
Chrysene	S12-De07759	CP	%	119		70-130	Pass	
Dibenz(a,h)anthracene	S12-De07759	CP	%	117		70-130	Pass	
Fluoranthene	S12-De07759	CP	%	117		70-130	Pass	
Fluorene	S12-De07759	CP	%	122		70-130	Pass	
Indeno(1,2,3-cd)pyrene	S12-De07759	CP	%	121		70-130	Pass	
Naphthalene	S12-De07759	CP	%	123		70-130	Pass	
Phenanthrene	S12-De07759	CP	%	115		70-130	Pass	
Pyrene	S12-De07759	CP	%	120		70-130	Pass	
Spike - % Recovery								
Metals M8				Result 1				
Arsenic	S12-De07759	CP	%	95		70-130	Pass	
Cadmium	S12-De07759	CP	%	90		70-130	Pass	
Chromium	S12-De07759	CP	%	99		70-130	Pass	
Copper	S12-De07759	CP	%	109		70-130	Pass	
Lead	S12-De07759	CP	%	104		70-130	Pass	
Mercury	S12-De07759	CP	%	86		70-130	Pass	
Nickel	S12-De07759	CP	%	92		70-130	Pass	
Zinc	S12-De07759	CP	%	90		70-130	Pass	
Spike - % Recovery								

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Metals M8				Result 1					
Arsenic	S12-De07773	CP	%	93			70-130	Pass	
Cadmium	S12-De07773	CP	%	93			70-130	Pass	
Chromium	S12-De07773	CP	%	98			70-130	Pass	
Copper	S12-De07773	CP	%	98			70-130	Pass	
Lead	S12-De07773	CP	%	100			70-130	Pass	
Mercury	S12-De07773	CP	%	79			70-130	Pass	
Nickel	S12-De07773	CP	%	98			70-130	Pass	
Zinc	S12-De07773	CP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S12-De07774	CP	%	79			70-130	Pass	
Toluene	S12-De07774	CP	%	82			70-130	Pass	
Ethylbenzene	S12-De07774	CP	%	83			70-130	Pass	
Total m+p-Xylenes	S12-De07774	CP	%	87			70-130	Pass	
o-Xylene	S12-De07774	CP	%	87			70-130	Pass	
Xylenes(ortho.meta and para)	S12-De07774	CP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
Naphthalene	S12-De07774	CP	%	114			70-130	Pass	
TRH C6-C10	S12-De07774	CP	%	77			70-130	Pass	
Spike - % Recovery									
Polyaromatic Hydrocarbons (PAH)				Result 1					
Acenaphthene	S12-De07774	CP	%	117			70-130	Pass	
Acenaphthylene	S12-De07774	CP	%	109			70-130	Pass	
Anthracene	S12-De07774	CP	%	120			70-130	Pass	
Benz(a)anthracene	S12-De07774	CP	%	98			70-130	Pass	
Benzo(a)pyrene	S12-De07774	CP	%	103			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07774	CP	%	109			70-130	Pass	
Benzo(g,h,i)perylene	S12-De07774	CP	%	113			70-130	Pass	
Chrysene	S12-De07774	CP	%	118			70-130	Pass	
Dibenz(a,h)anthracene	S12-De07774	CP	%	102			70-130	Pass	
Fluoranthene	S12-De07774	CP	%	109			70-130	Pass	
Fluorene	S12-De07774	CP	%	118			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S12-De07774	CP	%	119			70-130	Pass	
Naphthalene	S12-De07774	CP	%	117			70-130	Pass	
Phenanthrene	S12-De07774	CP	%	111			70-130	Pass	
Pyrene	S12-De07774	CP	%	120			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Cadmium	S12-De07788	CP	%	81			70-130	Pass	
Chromium	S12-De07788	CP	%	82			70-130	Pass	
Mercury	S12-De07788	CP	%	78			70-130	Pass	
Nickel	S12-De07788	CP	%	83			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S12-De07694	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28	S12-De07694	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36	S12-De07694	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD		
TRH >C10-C16	S12-De07694	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S12-De07694	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S12-De07694	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD		
Aroclor-1016	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1232	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides (OC)				Result 1	Result 2	RPD		
4,4'-DDD	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S12-De07694	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
a-BHC	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-Chlordane	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-Chlordane	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S12-De07694	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S12-De07694	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Chlorpyrifos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Diazinon	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfotthion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl azinphos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	S12-De07694	CP	mg/kg	< 10	< 10	<1	30%	Pass
Parathion	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phorate	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Profenofos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Prothiofos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Ronnel	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Stirophos	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD		
Acenaphthene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07694	CP	mg/kg	< 1	< 1	<1	30%	Pass
Benzo(g,h,i)perylene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S12-De07694	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S12-De07700	CP	mg/kg	3.1	2.8	9.0	30%	Pass
Cadmium	S12-De07700	CP	mg/kg	< 0.4	< 0.4	19	30%	Pass
Chromium	S12-De07700	CP	mg/kg	46	45	4.0	30%	Pass
Copper	S12-De07700	CP	mg/kg	24	23	5.0	30%	Pass
Lead	S12-De07700	CP	mg/kg	33	37	13	30%	Pass
Mercury	S12-De07700	CP	mg/kg	0.07	0.06	4.0	30%	Pass
Nickel	S12-De07700	CP	mg/kg	47	49	5.0	30%	Pass
Zinc	S12-De07700	CP	mg/kg	84	98	15	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	S12-De07732	CP	mg/kg	< 10	< 10	<1	30%	Pass
TRH C10-C14	S12-De07732	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C15-C28	S12-De07732	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH C29-C36	S12-De07732	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Toluene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethylbenzene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Total m+p-Xylenes	S12-De07732	CP	mg/kg	< 1	< 1	<1	30%	Pass
o-Xylene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Xylenes(ortho.meta and para)	S12-De07732	CP	mg/kg	< 1.5	< 1.5	<1	30%	Pass
Total BTEX	S12-De07732	CP	mg/kg	< 1.5	< 1.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD		
Naphthalene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S12-De07732	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C6-C10 less BTEX (F1)	S12-De07732	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S12-De07732	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S12-De07732	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S12-De07732	CP	mg/kg	< 100	< 100	<1	30%	Pass

Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Acenaphthene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07732	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Benzo(g,h,i)perylene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S12-De07732	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De07736	CP	mg/kg	12	7.3	52	30%	Fail	Q15
Cadmium	S12-De07736	CP	mg/kg	< 0.4	< 0.4	2.0	30%	Pass	
Chromium	S12-De07736	CP	mg/kg	< 5	< 5	4.0	30%	Pass	
Copper	S12-De07736	CP	mg/kg	19	15	25	30%	Pass	
Lead	S12-De07736	CP	mg/kg	15	13	19	30%	Pass	
Mercury	S12-De07736	CP	mg/kg	< 0.05	< 0.05	22	30%	Pass	
Nickel	S12-De07736	CP	mg/kg	< 5	< 5	37	30%	Fail	Q15
Zinc	S12-De07736	CP	mg/kg	27	22	18	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De07755	CP	mg/kg	2.8	< 2	59	30%	Fail	Q15
Cadmium	S12-De07755	CP	mg/kg	< 0.4	< 0.4	9.0	30%	Pass	
Chromium	S12-De07755	CP	mg/kg	< 5	< 5	7.0	30%	Pass	
Copper	S12-De07755	CP	mg/kg	64	66	4.0	30%	Pass	
Lead	S12-De07755	CP	mg/kg	< 5	< 5	6.0	30%	Pass	
Mercury	S12-De07755	CP	mg/kg	< 0.05	< 0.05	8.0	30%	Pass	
Nickel	S12-De07755	CP	mg/kg	120	110	11	30%	Pass	
Zinc	S12-De07755	CP	mg/kg	54	64	17	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S12-De07759	CP	mg/kg	< 10	< 10	<1	30%	Pass	
TRH C10-C14	S12-De07759	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28	S12-De07759	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36	S12-De07759	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTX				Result 1	Result 2	RPD			
Benzene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Toluene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Ethylbenzene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Total m+p-Xylenes	S12-De07759	CP	mg/kg	< 1	< 1	<1	30%	Pass	
o-Xylene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Xylenes(ortho.meta and para)	S12-De07759	CP	mg/kg	< 1.5	< 1.5	<1	30%	Pass	
Total BTX	S12-De07759	CP	mg/kg	< 1.5	< 1.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
Naphthalene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S12-De07759	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD		
TRH C6-C10 less BTEX (F1)	S12-De07759	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S12-De07759	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S12-De07759	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S12-De07759	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD		
Aroclor-1016	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1232	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides (OC)				Result 1	Result 2	RPD		
4,4'-DDD	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S12-De07759	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
a-BHC	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-Chlordane	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-Chlordane	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S12-De07759	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S12-De07759	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Chlorpyrifos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Diazinon	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfothion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl azinphos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	S12-De07759	CP	mg/kg	< 10	< 10	<1	30%	Pass
Parathion	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phorate	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Profenofos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Prothiofos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Stirophos	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD		
Acenaphthene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07759	CP	mg/kg	< 1	< 1	<1	30%	Pass
Benzo(g,h,i)perylene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S12-De07759	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S12-De07771	CP	mg/kg	12	10	12	30%	Pass
Cadmium	S12-De07771	CP	mg/kg	< 0.4	< 0.4	1.0	30%	Pass
Chromium	S12-De07771	CP	mg/kg	14	12	19	30%	Pass
Copper	S12-De07771	CP	mg/kg	12	11	4.0	30%	Pass
Lead	S12-De07771	CP	mg/kg	13	15	15	30%	Pass
Mercury	S12-De07771	CP	mg/kg	< 0.05	< 0.05	16	30%	Pass
Nickel	S12-De07771	CP	mg/kg	< 5	< 5	12	30%	Pass
Zinc	S12-De07771	CP	mg/kg	19	19	1.0	30%	Pass
Duplicate								
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD		
Acenaphthene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07774	CP	mg/kg	< 1	< 1	<1	30%	Pass
Benzo(g,h,i)perylene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S12-De07774	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S12-De07781	CP	mg/kg	16	15	11	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S12-De07787	CP	mg/kg	9.1	8.5	8.0	30%	Pass

Duplicate								
Metals M8				Result 1	Result 2	RPD		
Cadmium	S12-De07787	CP	mg/kg	< 0.4	< 0.4	61	30%	Fail
Chromium	S12-De07787	CP	mg/kg	< 5	< 5	34	30%	Fail
Copper	S12-De07787	CP	mg/kg	33	41	24	30%	Pass
Lead	S12-De07787	CP	mg/kg	22	16	30	30%	Pass
Mercury	S12-De07787	CP	mg/kg	< 0.05	< 0.05	36	30%	Fail
Nickel	S12-De07787	CP	mg/kg	5.5	< 5	15	30%	Pass
Zinc	S12-De07787	CP	mg/kg	56	41	29	30%	Pass

Comments

Please note: Asbestos analysed by ASET (Job : ASET31909/35089/1-36) NATA Accreditation : 14484

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes mgt-LabMark's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Jean Heng	Client Services
Laura Schofield	Senior Analyst-Volatile (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
James Norford	Senior Analyst-Metal (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

mgt-LabMark shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall mgt-LabMark be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET31909/ 35089 / 1 - 36

Your ref : 362590

NATA Accreditation No: 14484

13 December 2012

MGT- Labmark Environmental Pty Ltd
Unit F3, Building F, 16, Mars Road
Lane Cove
NSW 2066

Attn: Ms Leanne Knowles

Dear Leanne,

Asbestos Identification

This report presents the results of thirty six samples, forwarded by MGT- Labmark Environmental Pty Ltd on 12 December 2012, for analysis for asbestos.

1.Introduction:Thirty six samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method. **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET31909 / 35089 / 1. BH1 - 0.9 - 1.0 - De07694.**
Approx dimensions 4.7 cm x 4.2 cm x 3.5 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET31909 / 35089 / 2. BH4 - 6.2 - 6.3 - De07699.
Approx dimensions 3.7 cm x 3.2 cm x 2.6 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 3. ASET31909 / 35089 / 3. BH2 - 0.2 - 0.3 - De07700.
Approx dimensions 5.2 cm x 3.7 cm x 3.1 cm
The sample consisted of a mixture of soil, stones, plant matter, fragments of plaster, cement and bitumen.
No asbestos detected.

Sample No. 4. ASET31909 / 35089 / 4. BH3 - 1.9 - 2.0 - De07707.
Approx dimensions 3.6 cm x 3.4 cm x 2.5 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 5. ASET31909 / 35089 / 5. BH4 - 0.4 - 0.5 - De07711.
Approx dimensions 4.3 cm x 3.5 cm x 2.7 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635

PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: aset@bigpond.net.au WEBSITE: www.Ausset.com.au

OCCUPATIONAL HEALTH & SAFETY STUDIES • INDOOR AIR QUALITY SURVEYS • HAZARDOUS MATERIAL SURVEYS • RADIATION SURVEYS • ASBESTOS SURVEYS
ASBESTOS DETECTION & IDENTIFICATION • REPAIR & CALIBRATION OF SCIENTIFIC EQUIPMENT • AIRBORNE FIBRE & SILICA MONITORING



Sample No. 6. ASET31909 / 35089 / 6. BH4 - 4.9 - 5.0 - De07716.

Approx dimensions 4.2 cm x 3.6 cm x 3.1 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 7. ASET31909 / 35089 / 7. BH5 - 0.4 - 0.5 - De07717.

Approx dimensions 4.1 cm x 3.4 cm x 2.7 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 8. ASET31909 / 35089 / 8. BH5 - 3.8 - 3.9 - De07720.

Approx dimensions 5.4 cm x 4.3 cm x 3.6 cm

The sample consisted of a mixture of soil, stones, plant matter, fragments of glass and coal like material.

No asbestos detected.

Sample No. 9. ASET31909 / 35089 / 9. BH6 - 0.9 - 1.0 - De07722.

Approx dimensions 5.6 cm x 4.4 cm x 4.3 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of shale.

No asbestos detected.

Sample No. 10. ASET31909 / 35089 / 10. BH7 - 1.9 - 2.0 - De07729.

Approx dimensions 5.5 cm x 4.6 cm x 4.3 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of shale.

No asbestos detected.

Sample No. 11. ASET31909 / 35089 / 11. BH7 - 4.9 - 5.0 - De07732.

Approx dimensions 3.7 cm x 3.4 cm x 2.5 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 12. ASET31909 / 35089 / 12. BH8 - 3.9 - 4.0 - De07736.

Approx dimensions 4.1 cm x 3.5 cm x 2.7 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of shale.

No asbestos detected.

Sample No. 13. ASET31909 / 35089 / 13. BH9 - 0.9 - 1.0 - De07738.

Approx dimensions 5.4 cm x 5.2 cm x 4.6 cm

The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of coal like material and shale.

No asbestos detected.

Sample No. 14. ASET31909 / 35089 / 14. BH4 - 4.9 - 5.0 - De07742.

Approx dimensions 3.5 cm x 3.4 cm x 2.7 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 15. ASET31909 / 35089 / 15. BH10 - 0.9 - 1.0 - De07744.

Approx dimensions 4.6 cm x 4.2 cm x 3.5 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.



Sample No. 16. ASET31909 / 35089 / 16. BH10 - 2.9 - 3.0 - De07746.

Approx dimensions 4.2 cm x 3.7 cm x 2.6 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 17. ASET31909 / 35089 / 17. BH12 - 0.9 - 1.0 - De07753.

Approx dimensions 5.2 cm x 4.6 cm x 3.4 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 18. ASET31909 / 35089 / 18. BH12 - 2.4 - 2.5 - De07754.

Approx dimensions 4.4 cm x 3.6 cm x 2.8 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 19. ASET31909 / 35089 / 19. BH13 - 0.4 - 0.5 - De07755.

Approx dimensions 5.1 cm x 4.6 cm x 3.8 cm

The sample consisted of a mixture of soil, stones and plant matter.

No asbestos detected.

Sample No. 20. ASET31909 / 35089 / 20. BH14 - 0.9 - 1.0 - De07759.

Approx dimensions 4.6 cm x 4.3 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of glass and coal like material.

No asbestos detected.

Sample No. 21. ASET31909 / 35089 / 21. BH14 - 2.9 - 3.0 - De07761.

Approx dimensions 4.4 cm x 3.5 cm x 3.4 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 22. ASET31909 / 35089 / 22. BH15 - 0.2 - 0.3 - De07762.

Approx dimensions 5.7 cm x 4.6 cm x 3.3 cm

The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of bitumen and shale.

No asbestos detected.

Sample No. 23. ASET31909 / 35089 / 23. BH16 - 0.4 - 0.5 - De07765.

Approx dimensions 4.7 cm x 4.5 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of coal like material and shale.

No asbestos detected.

Sample No. 24. ASET31909 / 35089 / 24. BH16 - 0.9 - 1.0 - De07766.

Approx dimensions 4.6 cm x 4.5 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 25. ASET31909 / 35089 / 25. BH17 - 0.4 - 0.5 - De07768.

Approx dimensions 4.7 cm x 4.5 cm x 3.6 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.



Sample No. 26. ASET31909 / 35089 / 26. BH18 - 0.4 - 0.5 - De07769.

Approx dimensions 3.5 cm x 2.8 cm x 2.7 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 27. ASET31909 / 35089 / 27. BH18 - 0.9 - 1.0 - De07770.

Approx dimensions 5.5 cm x 4.5 cm x 3.7 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 28. ASET31909 / 35089 / 28. BH19 - 0.4 - 0.5 - De07771.

Approx dimensions 4.8 cm x 4.5 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 29. ASET31909 / 35089 / 29. BH20 - 0.2 - 0.3 - De07773.

Approx dimensions 4.6 cm x 4.4 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 30. ASET31909 / 35089 / 30. BH20 - 0.6 - 0.7 - De07774.

Approx dimensions 3.7 cm x 2.5 cm x 2.4 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of bitumen.

No asbestos detected.

Sample No. 31. ASET31909 / 35089 / 31. BH23 - 0.4 - 0.5 - De07776.

Approx dimensions 5.6 cm x 5.4 cm x 4.7 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 32. ASET31909 / 35089 / 32. BH23 - 0.75 - 0.85 - De07777.

Approx dimensions 5.4 cm x 4.6 cm x 4.2 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of bitumen.

No asbestos detected.

Sample No. 33. ASET31909 / 35089 / 33. BH35 - 0.4 - 0.5 - De07778.

Approx dimensions 3.4 cm x 2.6 cm x 2.5 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 34. ASET31909 / 35089 / 34. BH35 - 2.9 - 3.0 - De07781.

Approx dimensions 3.3 cm x 2.5 cm x 2.4 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 35. ASET31909 / 35089 / 35. BH36 - 0.4 - 0.5 - De07782.

Approx dimensions 6.1 cm x 5.4 cm x 5.1 cm

The sample consisted of a mixture of clayish soil, stones, plant matter, fragments of coal like material and shale.

No asbestos detected.



Sample No. 36. ASET31909 / 35089 / 36. BH11 - 0.2 - 0.3 - De07747.

Approx dimensions 5.7 cm x 5.4 cm x 4.9 cm

The sample consisted of a mixture of sandy clayish soil, stones and plant matter.

No asbestos detected.

Analysed and reported by,

A handwritten signature in black ink, appearing to read "Laxman Dias", is written over a light blue grid background.

**Laxman Dias. BSc
Analyst / Approved Identifier.
Approved Signatory**



**This document is issued in accordance with
NATA's Accreditation requirements. Accredited
for compliance with ISO/IEC 17025.**

Certificate of Analysis

Coffey Environments Pty Ltd NSW
Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067



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The results of the tests, calibrations and/or
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to Australian/national standards.

Attention: Fiona Wong

Report 362590-W
Client Reference ILC ENFIELD ENAURHOD04419AA
Received Date Dec 11, 2012

Client Sample ID			RB1	RB2
Sample Matrix			Water	Water
mgt-LabMark Sample No.			S12-De07801	S12-De07802
Date Sampled			Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
Total m+p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes(ortho.meta and para)	0.003	mg/L	< 0.003	< 0.003
Total BTEX	0.01	mg/L	< 0.01	< 0.01
4-Bromofluorobenzene (surr.)	1	%	96	98
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				
Naphthalene ^{N02}	0.005	mg/L	< 0.005	< 0.005
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
Polychlorinated Biphenyls (PCB)				
Aroclor-1016	0.005	mg/L	< 0.005	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005	< 0.005
Total PCB	0.005	mg/L	< 0.005	< 0.005
Dibutylchloroendate (surr.)	1	%	103	102
Organochlorine Pesticides (OC)				
4,4'-DDD	0.0005	mg/L	< 0.0005	< 0.0005
4,4'-DDE	0.0005	mg/L	< 0.0005	< 0.0005
4,4'-DDT	0.002	mg/L	< 0.002	< 0.002
a-BHC	0.0005	mg/L	< 0.0005	< 0.0005
a-Chlordane	0.0005	mg/L	< 0.0005	< 0.0005

Client Sample ID			RB1	RB2
Sample Matrix			Water	Water
mgt-LabMark Sample No.			S12-De07801	S12-De07802
Date Sampled			Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit		
Organochlorine Pesticides (OC)				
Aldrin	0.0005	mg/L	< 0.0005	< 0.0005
b-BHC	0.0005	mg/L	< 0.0005	< 0.0005
d-BHC	0.0005	mg/L	< 0.0005	< 0.0005
Dieldrin	0.0005	mg/L	< 0.0005	< 0.0005
Endosulfan I	0.0005	mg/L	< 0.0005	< 0.0005
Endosulfan II	0.0005	mg/L	< 0.0005	< 0.0005
Endosulfan sulphate	0.0005	mg/L	< 0.0005	< 0.0005
Endrin	0.0005	mg/L	< 0.0005	< 0.0005
Endrin aldehyde	0.0005	mg/L	< 0.0005	< 0.0005
Endrin ketone	0.0005	mg/L	< 0.0005	< 0.0005
g-BHC (Lindane)	0.0005	mg/L	< 0.0005	< 0.0005
g-Chlordane	0.0005	mg/L	< 0.0005	< 0.0005
Heptachlor	0.0005	mg/L	< 0.0005	< 0.0005
Heptachlor epoxide	0.0005	mg/L	< 0.0005	< 0.0005
Hexachlorobenzene	0.0005	mg/L	< 0.0005	< 0.0005
Methoxychlor	0.002	mg/L	< 0.002	< 0.002
Dibutylchloroendate (surr.)	1	%	103	102
Tetrachloro-m-xylene (surr.)	1	%	73	74
Organophosphorus Pesticides (OP)				
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002
Coumaphos	0.002	mg/L	< 0.002	< 0.002
Demeton (total)	0.004	mg/L	< 0.004	< 0.004
Diazinon	0.002	mg/L	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002
Methyl azinphos	0.002	mg/L	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002
Monocrotophos	0.02	mg/L	< 0.02	< 0.02
Parathion	0.002	mg/L	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002
Profenofos	0.002	mg/L	< 0.002	< 0.002
Prothiofos	0.002	mg/L	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002
Stirophos	0.002	mg/L	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	111	99
Polyaromatic Hydrocarbons (PAH)				
Acenaphthene	0.001	mg/L	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001

Client Sample ID			RB1	RB2
Sample Matrix			Water	Water
mgt-LabMark Sample No.			S12-De07801	S12-De07802
Date Sampled			Dec 08, 2012	Dec 09, 2012
Test/Reference	LOR	Unit		
Polyaromatic Hydrocarbons (PAH)				
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.002	mg/L	< 0.002	< 0.002
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001
Total PAH	0.002	mg/L	< 0.002	< 0.002
2-Fluorobiphenyl (surr.)	1	%	82	112
p-Terphenyl-d14 (surr.)	1	%	88	125
Heavy Metals				
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001
Cadmium (filtered)	0.0001	mg/L	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: E004 Petroleum Hydrocarbons (TPH)	Sydney	Dec 11, 2012	7 Day
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * - Method: LM-LTM-ORG2010	Sydney	Dec 11, 2012	7 Day
BTEX - Method: E029/E016 BTEX	Sydney	Dec 11, 2012	14 Day
Polychlorinated Biphenyls (PCB) - Method: E013 Polychlorinated Biphenyls (PCB)	Sydney	Dec 11, 2012	7 Day
Organochlorine Pesticides (OC) - Method: E013 Organochlorine Pesticides (OC)	Sydney	Dec 11, 2012	7 Day
Organophosphorus Pesticides (OP) - Method: E014 Organophosphorus Pesticides (OP)	Sydney	Dec 11, 2012	7 Day
Polyaromatic Hydrocarbons (PAH) - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 11, 2012	7 Day
Metals M8 filtered - Method: E020/E030 Filtered Metals in Water & E026 Mercury	Sydney	Dec 11, 2012	28 Day

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Client Job No.: ILC ENFIELD ENAURHOD04419AA

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Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
BH1 0.4-0.5	Dec 08, 2012		Soil	S12-De07693				X									
BH1 0.9-1.0	Dec 08, 2012		Soil	S12-De07694	X	X				X		X	X	X	X	X	X
BH1 1.5-1.6	Dec 08, 2012		Soil	S12-De07695				X									
BH1 2.1-2.2	Dec 08, 2012		Soil	S12-De07696				X									
BH1 2.9-3.0	Dec 08, 2012		Soil	S12-De07697				X									
BH1 4.9- 5.0	Dec 08, 2012		Soil	S12-De07698				X									
BH1 6.2-6.3	Dec 08, 2012		Soil	S12-De07699	X	X				X		X				X	X
BH2 0.2-0.3	Dec 08, 2012		Soil	S12-De07700	X	X				X		X	X	X	X	X	X
BH2 0.9-1.0	Dec 08, 2012		Soil	S12-De07701				X									
BH2 1.9-2.0	Dec 08, 2012		Soil	S12-De07702				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH2 3.9-4.0	Dec 08, 2012		Soil	S12-De07703				X									
BH2 4.9-5.0	Dec 08, 2012		Soil	S12-De07704				X									
BH3 0.2-0.3	Dec 09, 2012		Soil	S12-De07705				X									
BH3 0.9-1.0	Dec 09, 2012		Soil	S12-De07706				X									
BH3 1.9-2.0	Dec 09, 2012		Soil	S12-De07707	X	X				X		X	X	X	X	X	X
BH3 2.9-3.0	Dec 09, 2012		Soil	S12-De07708				X									
BH3 3.9-4.0	Dec 09, 2012		Soil	S12-De07709				X									
BH3 4.9-5.0	Dec 09, 2012		Soil	S12-De07710				X									
BH4 0.4-0.5	Dec 09, 2012		Soil	S12-De07711	X	X				X		X	X	X	X	X	X
BH4 0.9-1.0	Dec 09, 2012		Soil	S12-De07712				X									
BH4 1.9-2.0	Dec 09, 2012		Soil	S12-De07713				X									

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Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH4 2.9-3.0	Dec 09, 2012		Soil	S12-De07714				X									
BH4 3.9-4.0	Dec 09, 2012		Soil	S12-De07715				X									
BH4 4.9-5.0	Dec 09, 2012		Soil	S12-De07716	X	X				X		X				X	X
BH5 0.4-0.5	Dec 08, 2012		Soil	S12-De07717	X	X				X		X	X	X	X	X	X
BH5 0.9-1.0	Dec 09, 2012		Soil	S12-De07718				X									
BH5 2.1-2.2	Dec 09, 2012		Soil	S12-De07719				X									
BH5 3.8-3.9	Dec 09, 2012		Soil	S12-De07720	X	X				X		X				X	X
BH6 0.4-0.5	Dec 09, 2012		Soil	S12-De07721				X									
BH6 0.9-1.0	Dec 09, 2012		Soil	S12-De07722	X	X				X		X	X	X	X	X	X
BH6 2.3-2.4	Dec 09, 2012		Soil	S12-De07723				X									
BH6 2.9-3.0	Dec 09, 2012		Soil	S12-De07724				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH6 3.9-4.0	Dec 09, 2012		Soil	S12-De07725				X									
BH6 4.9-5.0	Dec 09, 2012		Soil	S12-De07726				X									
BH7 0.4-0.5	Dec 09, 2012		Soil	S12-De07727				X									
BH7 0.9-1.0	Dec 09, 2012		Soil	S12-De07728				X									
BH7 1.9-2.0	Dec 09, 2012		Soil	S12-De07729	X	X				X		X	X	X	X	X	X
BH7 2.9-3.0	Dec 09, 2012		Soil	S12-De07730				X									
BH7 3.9-4.0	Dec 09, 2012		Soil	S12-De07731				X									
BH7 4.9-5.0	Dec 09, 2012		Soil	S12-De07732	X	X				X		X				X	X
BH8 0.4-0.5	Dec 09, 2012		Soil	S12-De07733				X									
BH8 0.9-1.0	Dec 09, 2012		Soil	S12-De07734				X									
BH8 2.9-3.0	Dec 09, 2012		Soil	S12-De07735				X									

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Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH8 3.9-4.0	Dec 09, 2012		Soil	S12-De07736	X	X				X		X	X	X	X	X	X
BH9 0.4-0.5	Dec 08, 2012		Soil	S12-De07737				X									
BH9 0.9-1.0	Dec 09, 2012		Soil	S12-De07738	X	X				X		X	X	X	X	X	X
BH9 1.9-2.0	Dec 09, 2012		Soil	S12-De07739				X									
BH9 2.9-3.0	Dec 09, 2012		Soil	S12-De07740				X									
BH9 3.9-4.0	Dec 09, 2012		Soil	S12-De07741				X									
BH9 4.9-5.0	Dec 09, 2012		Soil	S12-De07742	X	X				X		X				X	X
BH10 0.4-0.5	Dec 09, 2012		Soil	S12-De07743				X									
BH10 0.9-1.0	Dec 09, 2012		Soil	S12-De07744	X	X				X		X	X	X	X	X	X
BH10 1.9-2.0	Dec 09, 2012		Soil	S12-De07745				X									
BH10 2.9-3.0	Dec 09, 2012		Soil	S12-De07746	X	X				X		X				X	X

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Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH11 0.2-0.3	Dec 08, 2012		Soil	S12-De07747	X	X				X		X	X	X	X	X	X
BH11 0.9-1.0	Dec 08, 2012		Soil	S12-De07748				X									
BH11 1.9-2.0	Dec 08, 2012		Soil	S12-De07749				X									
BH11 2.9-3.0	Dec 08, 2012		Soil	S12-De07750				X									
BH12 0.2-0.3	Dec 09, 2012		Soil	S12-De07751				X									
BH12 1.9-2.0	Dec 09, 2012		Soil	S12-De07752				X									
BH12 0.9-1.0	Dec 09, 2012		Soil	S12-De07753	X	X				X		X	X	X	X	X	X
BH12 2.4-2.5	Dec 09, 2012		Soil	S12-De07754	X	X				X		X				X	X
BH13 0.4-0.5	Dec 08, 2012		Soil	S12-De07755	X	X				X		X	X	X	X	X	X
BH13 0.9-1.0	Dec 08, 2012		Soil	S12-De07756				X									
BH13 1.7-1.8	Dec 08, 2012		Soil	S12-De07757				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH14 0.4-0.5	Dec 09, 2012		Soil	S12-De07758				X									
BH14 0.9-1.0	Dec 09, 2012		Soil	S12-De07759	X	X				X		X	X	X	X	X	X
BH14 1.9-2.0	Dec 09, 2012		Soil	S12-De07760				X									
BH14 2.9-3.0	Dec 08, 2012		Soil	S12-De07761	X	X				X		X				X	X
BH15 0.2-0.3	Dec 09, 2012		Soil	S12-De07762	X	X				X		X	X	X	X	X	X
BH15 0.9-1.0	Dec 09, 2012		Soil	S12-De07763				X									
BH15 1.7-1.8	Dec 09, 2012		Soil	S12-De07764				X									
BH16 0.4-0.5	Dec 09, 2012		Soil	S12-De07765	X	X				X		X	X	X	X	X	X
BH16 0.9-1.0	Dec 09, 2012		Soil	S12-De07766	X	X				X		X				X	X
BH16 1.4-1.5	Dec 09, 2012		Soil	S12-De07767				X									
BH17 0.4-0.5	Dec 09, 2012		Soil	S12-De07768	X	X				X		X	X	X	X	X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH18 0.4-0.5	Dec 09, 2012		Soil	S12-De07769	X	X				X		X	X	X	X	X	X
BH18 0.9-1.0	Dec 09, 2012		Soil	S12-De07770	X	X				X		X				X	X
BH19 0.4-0.5	Dec 09, 2012		Soil	S12-De07771	X	X				X		X	X	X	X	X	X
BH19 0.8-0.9	Dec 09, 2012		Soil	S12-De07772				X									
BH20 0.2-0.3	Dec 09, 2012		Soil	S12-De07773	X	X				X		X	X	X	X	X	X
BH20 0.6-0.7	Dec 09, 2012		Soil	S12-De07774	X	X				X		X				X	X
BH21 0.4-0.5	Dec 09, 2012		Soil	S12-De07775			X										
BH23 0.4-0.5	Dec 09, 2012		Soil	S12-De07776	X	X				X		X	X	X	X	X	X
BH23 0.75-0.85	Dec 09, 2012		Soil	S12-De07777	X	X				X		X				X	X
BH24 0.4-0.5	Dec 08, 2012		Soil	S12-De07778	X	X				X		X	X	X	X	X	X
BH24 0.9-1.0	Dec 08, 2012		Soil	S12-De07779				X									

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Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH24 1.9-2.0	Dec 08, 2012		Soil	S12-De07780				X									
BH24 2.9-3.0	Dec 08, 2012		Soil	S12-De07781	X	X				X		X				X	X
BH25 0.4-0.5	Dec 08, 2012		Soil	S12-De07782	X	X				X		X	X	X	X	X	X
BH25 0.9-1.0	Dec 08, 2012		Soil	S12-De07783				X									
BH25 2.2-2.3	Dec 08, 2012		Soil	S12-De07784				X									
BH25 2.4-2.5	Dec 08, 2012		Soil	S12-De07785				X									
DUP 1	Dec 08, 2012		Soil	S12-De07786				X									
DUP 2	Dec 08, 2012		Soil	S12-De07787	X					X		X	X	X	X	X	X
DUP 4	Dec 09, 2012		Soil	S12-De07788	X					X		X	X	X	X	X	X
DUP 4A	Dec 09, 2012		Soil	S12-De07789				X									
DUP 5	Dec 09, 2012		Soil	S12-De07790				X									

Company Name: Coffey Environments Pty Ltd NSW
Address: Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
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Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
DUP 6	Dec 09, 2012		Soil	S12-De07791	X					X		X	X	X	X	X	X
DUP 7	Dec 09, 2012		Soil	S12-De07792				X									
DUP 3	Dec 08, 2012		Soil	S12-De07793				X									
DUP 8	Dec 09, 2012		Soil	S12-De07794				X									
DUP 8A	Dec 09, 2012		Soil	S12-De07795				X									
DUP 9	Dec 09, 2012		Soil	S12-De07796	X					X		X	X	X	X	X	X
DUP 10	Dec 09, 2012		Soil	S12-De07797				X									
DUP 10A	Dec 09, 2012		Soil	S12-De07798				X									
TS	Dec 06, 2012		Soil	S12-De07799					X			X					
TB	Dec 06, 2012		Soil	S12-De07800					X			X					
RB1	Dec 08, 2012		Water	S12-De07801							X	X	X	X	X	X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
RB2	Dec 09, 2012		Water	S12-De07802							X	X	X	X	X	X	X
BH9 0.5-0.6	Dec 09, 2012		Soil	S12-De08110				X									
BH8 0.3-0.4	Dec 09, 2012		Soil	S12-De08111				X									
BH4 0.2-0.3	Dec 09, 2012		Soil	S12-De08142				X									

mgt-LabMark Internal Quality Control Review

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC was performed on samples not pertaining to this report, however QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
3. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
Total m+p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes(ortho.meta and para)	mg/L	< 0.003			0.003	Pass	
Total BTEX	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	mg/L	< 0.005			0.005	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH C6-C10 less BTEX (F1)	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB	mg/L	0.005			0.005	Pass	
Method Blank							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4,4'-DDD	mg/L	< 0.0005			0.0005	Pass	
4,4'-DDE	mg/L	< 0.0005			0.0005	Pass	
4,4'-DDT	mg/L	< 0.002			0.002	Pass	
a-BHC	mg/L	< 0.0005			0.0005	Pass	
a-Chlordane	mg/L	< 0.0005			0.0005	Pass	
Aldrin	mg/L	< 0.0005			0.0005	Pass	
b-BHC	mg/L	< 0.0005			0.0005	Pass	
d-BHC	mg/L	< 0.0005			0.0005	Pass	
Dieldrin	mg/L	< 0.0005			0.0005	Pass	
Endosulfan I	mg/L	< 0.0005			0.0005	Pass	
Endosulfan II	mg/L	< 0.0005			0.0005	Pass	
Endosulfan sulphate	mg/L	< 0.0005			0.0005	Pass	
Endrin	mg/L	< 0.0005			0.0005	Pass	
Endrin aldehyde	mg/L	< 0.0005			0.0005	Pass	
Endrin ketone	mg/L	< 0.0005			0.0005	Pass	
g-BHC (Lindane)	mg/L	< 0.0005			0.0005	Pass	
g-Chlordane	mg/L	< 0.0005			0.0005	Pass	
Heptachlor	mg/L	< 0.0005			0.0005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	mg/L	< 0.0005			0.0005	Pass	
Hexachlorobenzene	mg/L	< 0.0005			0.0005	Pass	
Methoxychlor	mg/L	< 0.002			0.002	Pass	
Method Blank							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.002			0.002	Pass	
Demeton (total)	mg/L	< 0.004			0.004	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Methyl azinphos	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.02			0.02	Pass	
Parathion	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Profenofos	mg/L	< 0.002			0.002	Pass	
Prothiofos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Stirophos	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/L	< 0.002			0.002	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001			0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	%	88			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	107			70-130	Pass	
Toluene	%	112			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
Total m+p-Xylenes	%	107			70-130	Pass	
o-Xylene	%	108			70-130	Pass	
Xylenes(ortho.meta and para)	%	107			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	%	101			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
TRH >C10-C16	%	75			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	76			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4,4'-DDD	%	82			70-130	Pass	
4,4'-DDE	%	82			70-130	Pass	
4,4'-DDT	%	81			70-130	Pass	
a-BHC	%	83			70-130	Pass	
a-Chlordane	%	82			70-130	Pass	
Aldrin	%	82			70-130	Pass	
b-BHC	%	89			70-130	Pass	
d-BHC	%	85			70-130	Pass	
Dieldrin	%	84			70-130	Pass	
Endosulfan I	%	83			70-130	Pass	
Endosulfan II	%	85			70-130	Pass	
Endosulfan sulphate	%	86			70-130	Pass	
Endrin	%	87			70-130	Pass	
Endrin aldehyde	%	83			70-130	Pass	
Endrin ketone	%	92			70-130	Pass	
g-BHC (Lindane)	%	87			70-130	Pass	
g-Chlordane	%	82			70-130	Pass	
Heptachlor	%	83			70-130	Pass	
Heptachlor epoxide	%	84			70-130	Pass	
Hexachlorobenzene	%	84			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	%	90			70-130	Pass	
Coumaphos	%	98			70-130	Pass	
Diazinon	%	88			70-130	Pass	
Dichlorvos	%	80			70-130	Pass	
Dimethoate	%	85			70-130	Pass	
Disulfoton	%	88			70-130	Pass	
Ethoprop	%	93			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fenitrothion			%	96			70-130	Pass	
Fensulfothion			%	91			70-130	Pass	
Fenthion			%	93			70-130	Pass	
Methyl azinphos			%	96			70-130	Pass	
Malathion			%	97			70-130	Pass	
Methyl parathion			%	96			70-130	Pass	
Mevinphos			%	91			70-130	Pass	
Parathion			%	88			70-130	Pass	
Phorate			%	89			70-130	Pass	
Profenofos			%	103			70-130	Pass	
Prothiofos			%	97			70-130	Pass	
Ronnel			%	88			70-130	Pass	
Stirophos			%	105			70-130	Pass	
Trichloronate			%	90			70-130	Pass	
LCS - % Recovery									
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)									
Acenaphthene			%	93			70-130	Pass	
Acenaphthylene			%	92			70-130	Pass	
Anthracene			%	99			70-130	Pass	
Benz(a)anthracene			%	79			70-130	Pass	
Benzo(a)pyrene			%	84			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene			%	85			70-130	Pass	
Benzo(g,h,i)perylene			%	90			70-130	Pass	
Chrysene			%	94			70-130	Pass	
Dibenz(a,h)anthracene			%	85			70-130	Pass	
Fluoranthene			%	95			70-130	Pass	
Fluorene			%	88			70-130	Pass	
Indeno(1,2,3-cd)pyrene			%	85			70-130	Pass	
Naphthalene			%	91			70-130	Pass	
Phenanthrene			%	98			70-130	Pass	
Pyrene			%	99			70-130	Pass	
LCS - % Recovery									
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury									
Lead (filtered)			%	98			70-130	Pass	
Mercury (filtered)			%	78			70-130	Pass	
Nickel (filtered)			%	100			70-130	Pass	
Arsenic (filtered)			%	99			70-130	Pass	
Cadmium (filtered)			%	102			70-130	Pass	
Chromium (filtered)			%	101			70-130	Pass	
Copper (filtered)			%	102			70-130	Pass	
Zinc (filtered)			%	99			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S12-De09342	NCP	%	81			70-130	Pass	
TRH C10-C14	S12-De07692	NCP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S12-De09342	NCP	%	99			70-130	Pass	
Toluene	S12-De09342	NCP	%	100			70-130	Pass	
Ethylbenzene	S12-De09342	NCP	%	101			70-130	Pass	
Total m+p-Xylenes	S12-De09342	NCP	%	99			70-130	Pass	
o-Xylene	S12-De09342	NCP	%	100			70-130	Pass	
Xylenes(ortho.meta and para)	S12-De09342	NCP	%	99			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
Naphthalene	S12-De09342	NCP	%	79			70-130	Pass	
TRH C6-C10	S12-De09342	NCP	%	102			70-130	Pass	
TRH >C10-C16	S12-De07692	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Polyaromatic Hydrocarbons (PAH)				Result 1					
Acenaphthene	S12-De04801	NCP	%	78			70-130	Pass	
Acenaphthylene	S12-De04801	NCP	%	70			70-130	Pass	
Anthracene	S12-De04801	NCP	%	78			70-130	Pass	
Benz(a)anthracene	S12-De04801	NCP	%	72			70-130	Pass	
Benzo(a)pyrene	S12-De04801	NCP	%	70			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De04801	NCP	%	70			70-130	Pass	
Benzo(g,h,i)perylene	S12-De04801	NCP	%	76			70-130	Pass	
Chrysene	S12-De04801	NCP	%	73			70-130	Pass	
Dibenz(a,h)anthracene	S12-De04801	NCP	%	70			70-130	Pass	
Fluoranthene	S12-De04801	NCP	%	78			70-130	Pass	
Fluorene	S12-De04801	NCP	%	74			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S12-De04801	NCP	%	70			70-130	Pass	
Naphthalene	S12-De04801	NCP	%	73			70-130	Pass	
Phenanthrene	S12-De04801	NCP	%	79			70-130	Pass	
Pyrene	S12-De04801	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Metals M8 filtered				Result 1					
Lead (filtered)	S12-De07544	NCP	%	88			70-130	Pass	
Nickel (filtered)	S12-De07544	NCP	%	91			70-130	Pass	
Arsenic (filtered)	S12-De07544	NCP	%	113			70-130	Pass	
Cadmium (filtered)	S12-De07544	NCP	%	94			70-130	Pass	
Chromium (filtered)	S12-De07544	NCP	%	106			70-130	Pass	
Copper (filtered)	S12-De07544	NCP	%	90			70-130	Pass	
Zinc (filtered)	S12-De07544	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Metals M8 filtered				Result 1					
Mercury (filtered)	S12-De07802	CP	%	102			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S12-De09341	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S12-De07690	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S12-De07690	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S12-De07690	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S12-De09341	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S12-De09341	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S12-De09341	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Total m+p-Xylenes	S12-De09341	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S12-De09341	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes(ortho.meta and para)	S12-De09341	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Total BTEX	S12-De09341	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
Naphthalene	S12-De09341	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
TRH C6-C10	S12-De09341	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD		
TRH C6-C10 less BTEX (F1)	S12-De09341	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
TRH >C10-C16	S12-De07690	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass
TRH >C16-C34	S12-De07690	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH >C34-C40	S12-De07690	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD		
Acenaphthene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De07690	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Benzo(g,h,i)perylene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	25	30%	Pass
Pyrene	S12-De07690	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Metals M8 filtered				Result 1	Result 2	RPD		
Lead (filtered)	S12-De07543	NCP	mg/L	0.0054	0.0054	<1	30%	Pass
Mercury (filtered)	S12-De07801	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S12-De07543	NCP	mg/L	0.060	0.059	2.0	30%	Pass
Arsenic (filtered)	S12-De07543	NCP	mg/L	0.0017	0.0016	4.0	30%	Pass
Cadmium (filtered)	S12-De07543	NCP	mg/L	0.00012	0.00011	9.0	30%	Pass
Chromium (filtered)	S12-De07543	NCP	mg/L	< 0.001	< 0.001	5.0	30%	Pass
Copper (filtered)	S12-De07543	NCP	mg/L	0.0036	0.0035	4.0	30%	Pass
Zinc (filtered)	S12-De07543	NCP	mg/L	0.21	0.21	1.0	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised By

Jean Heng	Client Services
Laura Schofield	Senior Analyst-Volatile (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
James Norford	Senior Analyst-Metal (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

mgt-LabMark shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall mgt-LabMark be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Client Job No.: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 362590
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 11, 2012 9:00 AM
Due: Dec 14, 2012
Priority: 3 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

[illegible]

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[illegible]

Company Name: Coffey Environments Pty Ltd NSW
Address: Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

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Sample Detail					% Moisture	Asbestos	CANCELLED	HOLD	TRH C6-C9	Metals M8	Metals M8 filtered	BTEX	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH8 3.9-4.0	Dec 09, 2012		Soil	S12-De07736	X	X				X		X	X	X	X	X	X
BH9 0.4-0.5	Dec 08, 2012		Soil	S12-De07737				X									
BH9 0.9-1.0	Dec 09, 2012		Soil	S12-De07738	X	X				X		X	X	X	X	X	X
BH9 1.9-2.0	Dec 09, 2012		Soil	S12-De07739				X									
BH9 2.9-3.0	Dec 09, 2012		Soil	S12-De07740				X									
BH9 3.9-4.0	Dec 09, 2012		Soil	S12-De07741				X									
BH9 4.9-5.0	Dec 09, 2012		Soil	S12-De07742	X	X				X		X				X	X
BH10 0.4-0.5	Dec 09, 2012		Soil	S12-De07743				X									
BH10 0.9-1.0	Dec 09, 2012		Soil	S12-De07744	X	X				X		X	X	X	X	X	X
BH10 1.9-2.0	Dec 09, 2012		Soil	S12-De07745				X									
BH10 2.9-3.0	Dec 09, 2012		Soil	S12-De07746	X	X				X		X				X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH14 0.4-0.5	Dec 09, 2012		Soil	S12-De07758				X									
BH14 0.9-1.0	Dec 09, 2012		Soil	S12-De07759	X	X				X		X	X	X	X	X	X
BH14 1.9-2.0	Dec 09, 2012		Soil	S12-De07760				X									
BH14 2.9-3.0	Dec 08, 2012		Soil	S12-De07761	X	X				X		X				X	X
BH15 0.2-0.3	Dec 09, 2012		Soil	S12-De07762	X	X				X		X	X	X	X	X	X
BH15 0.9-1.0	Dec 09, 2012		Soil	S12-De07763				X									
BH15 1.7-1.8	Dec 09, 2012		Soil	S12-De07764				X									
BH16 0.4-0.5	Dec 09, 2012		Soil	S12-De07765	X	X				X		X	X	X	X	X	X
BH16 0.9-1.0	Dec 09, 2012		Soil	S12-De07766	X	X				X		X				X	X
BH16 1.4-1.5	Dec 09, 2012		Soil	S12-De07767				X									
BH17 0.4-0.5	Dec 09, 2012		Soil	S12-De07768	X	X				X		X	X	X	X	X	X

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
BH24 1.9-2.0	Dec 08, 2012		Soil	S12-De07780				X									
BH24 2.9-3.0	Dec 08, 2012		Soil	S12-De07781	X	X				X		X				X	X
BH25 0.4-0.5	Dec 08, 2012		Soil	S12-De07782	X	X				X		X	X	X	X	X	X
BH25 0.9-1.0	Dec 08, 2012		Soil	S12-De07783				X									
BH25 2.2-2.3	Dec 08, 2012		Soil	S12-De07784				X									
BH25 2.4-2.5	Dec 08, 2012		Soil	S12-De07785				X									
DUP 1	Dec 08, 2012		Soil	S12-De07786				X									
DUP 2	Dec 08, 2012		Soil	S12-De07787	X					X		X	X	X	X	X	X
DUP 4	Dec 09, 2012		Soil	S12-De07788	X					X		X	X	X	X	X	X
DUP 4A	Dec 09, 2012		Soil	S12-De07789				X									
DUP 5	Dec 09, 2012		Soil	S12-De07790				X									

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Laboratory where analysis is conducted																	
Melbourne Laboratory - NATA Site # 1254 & 14271																	
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																	
External Laboratory						X											
DUP 6	Dec 09, 2012		Soil	S12-De07791	X					X		X	X	X	X	X	X
DUP 7	Dec 09, 2012		Soil	S12-De07792				X									
DUP 3	Dec 08, 2012		Soil	S12-De07793				X									
DUP 8	Dec 09, 2012		Soil	S12-De07794				X									
DUP 8A	Dec 09, 2012		Soil	S12-De07795				X									
DUP 9	Dec 09, 2012		Soil	S12-De07796	X					X		X	X	X	X	X	X
DUP 10	Dec 09, 2012		Soil	S12-De07797				X									
DUP 10A	Dec 09, 2012		Soil	S12-De07798				X									
TS	Dec 06, 2012		Soil	S12-De07799					X			X					
TB	Dec 06, 2012		Soil	S12-De07800					X			X					
RB1	Dec 08, 2012		Water	S12-De07801							X	X	X	X	X	X	X

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[illegible]

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 7 103855

environments
SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Coffey Env. ChatswoodReport Results to: Fiona Wong

Mobile:

Email: fiona_wong

@coffey.com

Invoices to:

Phone:

Email:

@coffey.com

Project No: ENAU RHODORA 19AA Task No:Project Name: Enfield DC Laboratory: MGT LabmarkSampler's Name: Kevi Hamag Project Manager: Fiona Wong

Special Instructions:

3 day PAT

Analysis Request Section

URGENT

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH	BTEX	PAH	OC/OP/PCB	Asbestos	8 M.	NOTES
De 07693	BH1	0.4-0.5	8/12/12	Soil	G, Z	3 day							HOLD
94		0.9-1.0					X	X	X	X	X		HOLD
95		1.5-1.6											↓
96		2.1-2.2											HOLD
97		2.9-3.0					X	X	X	X	X		HOLD
98		4.9-5.0											HOLD
99	X	6.2-6.3			G		X	X	X	X	X		B
00	BH2	0.2-0.3			G, Z		X	X	X	X	X		
01		0.9-1.0											HOLD
02		1.9-2.0											↓
03		3.9-4.0											
04	X	4.9-5.0			G								↓
05	BH3	0.2-0.3	9/12/12		G, Z								HOLD
06		0.9-1.0											↓
07		1.9-2.0					X	X	X	X	X		
08		2.9-3.0											HOLD
09		3.9-4.0											↓
10	X	4.9-5.0			G								↓

RELINQUISHED BY

Name: FIONA WONG Date: 11/12/12 →
Coffey Environments Time: 8:30am

Name: _____ Date: _____ →
Company: _____ Time: _____

RECEIVED BY

Name: SUE Date: 11/12/12
Company: MGT Labmark Time: 8:30am

Name: Sean O. Date: 11/12/12
Company: MGT Labmark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

- All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved,
S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 7 103856

environments
SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Coffey Env. Chatswood.
Report Results to: Fiona Wong
Invoices to:

Mobile: 0404 367 752
Phone:

Email: fiona-wong
Email:

@coffey.com

@coffey.com

Project No: ENAU RHODOKHIAA Task No:Project Name: Enfield Laboratory: MGT Labmark.Sampler's Name: Keri Hawley Project Manager: Fiona Wong

Special Instructions:

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH	BTEX	PAH	OC/OP/PCB	Asbestos gm.	NOTES
11	BH4 0-4-0.5	9/12/12		Soil	G, Z	3-day	X	X	X	X	X	
12	0-9-1.0											HOLD
13	1-9-2.0											
14	2-9-3.0											
15	3-9-4.0				X							
16	X 4-9-5.0				G		V	X	X	X	X	
17 ⁵	BH5 0-4-0.5	8/12/12			G, Z		V	X	X	X	X	
18	0-9-1.0											HOLD
19	2-1-2.2											
20	X 3-8-3.9				X		X	X		X	X	
21	BH6 0-4-0.5	9/12/12			G, Z							HOLD
22	0-9-1.0						V	V	X	X	X	
23	2-3-2.4											HOLD
24	2-9-3.0											
25	X 3-9-4.0				X							
26	X 4-9-5.0	9/12/12			G, Z							
27	BH7 0-4-0.5											HOLD
28	X 0-9-1.0				X							

RELINQUISHED BY

Name: Fiona Wong Date: 11/12/12
Coffey Environments Time: 8:30am

Name: _____ Date: _____
Company: _____ Time: _____

RECEIVED BY

Name: SOE Date: 11/12/12
Company: MGT Labmark Time: 8:30am

Name: Sean O Date: 11/12/12
Company: MGT Labmark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Consigning Office: Coffey ENV. Chatswood.
Report Results to: Fiona Wong
Invoices to:

Mobile: _____ Email: @coffey.com
Phone: _____ Email: @coffey.com

Project No: ENAU0H0004419AA

Task No:

Project Name: MLC EnfieldLaboratory: MGT LabmarkSampler's Name: Kevin HaugProject Manager: Fiona Wong

Special Instructions:

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	THH	BTEX	PHH	DCP/OPPI/PCB	Asbestos	GM	NOTES
29	BH7	1.9-2.0	9/12/12	Soil	G, Z	3-day	X	X	X	X	X		
30	↓	2.9-3.0	↓	↓	↓	↓							(HOLD)
31	↓	3.9-4.0	↓	↓	↓	↓							↓
32	X	4.9-5.0	X		G		X	X		X	X		
33	BH8	0.4-0.5	9/12/12		G, Z								HOLD
34	↓	0.9-1.0	↓	↓	↓	↓							↓
35	↓	2.9-3.0	↓	↓	↓	↓							
36	X	3.9-4.0	X		G, Z		X	X	X	X	X		HOLD
37	BH9	0.4-0.5	8/12/12		G, Z								
38	↓	0.9-1.0	↓	↓	↓	↓	X	X	X	X	X		
39	↓	1.9-2.0	9/12/12	↓	↓	↓							(HOLD)
40	↓	2.9-3.0	↓	↓	↓	↓							↓
41	↓	3.9-4.0	↓	↓	↓	↓							
42	X	4.9-5.0	X		G		X	X		X	X		
43	BH10	0.4-0.5	9/12/12		G, Z								HOLD
44	↓	0.9-1.0	↓	↓	↓	↓	X	X	X	X	X		
45	↓	1.9-2.0	↓	↓	↓	↓							(HOLD)
46	X	2.9-3.0	X		G		X	X		X	X		

RELINQUISHED BY

Name: FIONA WONG Date: 11/12/12
Coffey Environments Time: 8:30am

Name: _____ Date: _____
Company: _____ Time: _____

RECEIVED BY

Name: SOE Date: 11/12/12
Company: MGT Labmark Time: 8:30am

Name: Sean G. Date: 11/12/12
Company: MGT Labmark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

- All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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coffey environments
SPECIALISTS IN ENVIRONMENTAL,
SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Coffey Env. Chatswood
Report Results to: Fiona Wong
Invoices to:

Mobile: 0409367752 Email: fiona-wong @coffey.com
Phone: Email: @coffey.com

Project No: ENAUH000419AA Task No:Project Name: Mc Enfield Laboratory: MGT LabmarkSampler's Name: Keri Hartog Project Manager: Fiona WongSpecial Instructions: ILC @ Enfield

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH	BTEX	PAH	OC/OP/PCB	Asbestos	SM	NOTES
65	BH16	0.4-0.5	9/12/12	Soil	G, Z	3-day	X	X	X	X	X	X	
66	↓	0.9-1.0			G		X	X		X	X		
67	↓	1.4-1.5			X		X	X		X	X		HOLD
68	BH17	0.4-0.5			G, Z		X	X	X	X	X		
69	BH18	0.4-0.5			↓		X	X	X	X	X		
70	↓	0.9-1.0			X		X	X		X	X		
71	BH19	0.4-0.5			G		X	X	X	X	X		
72	↓	0.8-0.9			X								HOLD
73	BH20	0.2-0.3			G, Z		X	X	X	X	X		
74	↓	0.6-0.7			G		X	X	X	X	X		
75	BH21	0.4-0.5			G, Z		X	X	X	X	X		
76	BH23	0.4-0.5			↓		X	X	X	X	X		
77	↓	0.75-0.85	X		↓		X	X	X	X	X		
78	BH35	0.4-0.5	8/12/12		↓		X	X	X	X	X		
79	↓	0.9-1.0			X								HOLD
80	↓	1.9-2.0			G								↓
81	↓	2.9-3.0			G		X	X	X	X	X		
82	BH36	0.4-0.5	X	X	G, Z	X	X	X	X	X	X		

RELINQUISHED BY

Name: FIONA WONG Date: 11/12/12
Coffey Environments Time: 8:30am

Name: _____ Date: _____
Company: _____ Time: _____

RECEIVED BY

Name: SUE Date: 11/12/12
Company: MGT Labmark Time: 8:30am

Name: Sean G. Date: 11/12/12
Company: MGT LabMark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Consigning Office: Coffey Env. Chatswood
Report Results to: Fiona Wong
Invoices to:

Mobile: 0409 367 752 Email: fiona-wong @coffey.com
Phone: Email: @coffey.com

Project No: ENVAURH00419AA Task No:
Project Name: mt Enfield Laboratory: MGT Labmark
Sampler's Name: Kerri Hanog Project Manager: Fiona Wong
Special Instructions: → 1LC@Enfield

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)
83	BH36	0.9-1.0	8/12/12	Soil	G, Z	3 day
84	↓	2.2-2.3	↓	↓	*	↓
85	*	2.4-2.5	↓	↓	G	↓
86	DUP 1	8/12/12	↓	↓	G	↓
87	DUP 2	↓	↓	↓	↓	↓
	DUP 2A	↓	↓	↓	↓	↓
88	DUP 4	9/12/12	↓	↓	↓	↓
89	DUP 4A	↓	↓	↓	↓	↓
90	DUP 5	↓	↓	↓	↓	↓
91	DUP 6	↓	↓	↓	↓	↓
	DUP 6A	↓	↓	↓	↓	↓
92	DUP 7	↓	↓	↓	↓	↓
93	DUP 3	8/12/12	↓	↓	↓	↓
94	DUP 8	9/12/12	↓	↓	↓	↓
95	DUP 8A	↓	↓	↓	↓	↓
96	DUP 9	↓	↓	↓	↓	↓
97	DUP 10	↓	↓	↓	↓	↓
98	DUP 10A	↓	↓	↓	↓	↓

Analysis Request Section												NOTES
TPH	BTEX	PAH	OCPP/PCB	Asbestos	SM							
												HOLD
												↓
												HOLD
X	X	X	X	X	X							Forward to
X	X	X	X	X	X							EnviroLab + DUP 2A
X	X	X	X	X	X							HOLD
												HOLD
X	X	X	X	X	X							Forward to EnviroLab
X	X	X	X	X	X							HOLD
												↓
X	X	X	X	X	X							HOLD
												↓

RELINQUISHED BY

Name: FIONA WONG Date: 11/12/12 →
Coffey Environments Time: 8-30am

Name: Date: →
Company: Time:

RECEIVED BY

Name: SUE Date: 11/12/12
Company: MGT LabMark Time: 8-30am

Name: Sean O. Date: 11/12/12
Company: MGT LabMark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Consigning Office: Coffey ENV. Chatswood
Report Results to: Fiona Wong
Invoices to:

Mobile: 0409 367 752 Email: fiona.wong @coffey.com
Phone: Email: @coffey.com

Project No: ENAVR-HO-D04419AA Task No:Project Name: ILC @ Enfield Laboratory: MGTSampler's Name: KH Project Manager: FW

Special Instructions:

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	BTEX + CB-C9	TH, BTEX, PAH	SV	OCPI/OPPI/PCB	NOTES
199	TS			Soil	G	3-day	X				
200	TB			*	*	*	X				
01	RBI	8/12/12		Water	G, P, 2V		X	X	X		
02	RB2	9/12/12		*	*		X	X	X		
03											
De 078/12											

RELINQUISHED BY

Name: FIONA WONG Date: 11/12/12 →
Coffey Environments Time: 8:30am

Name: Date: →
Company: Time:

RECEIVED BY

Name: SOE Date: 11/12/12
Company: MGT Labmark Time: 8-30am

Name: Sean O. Date: 11/12/12
Company: MGT LabMark Time: 9:00

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☒
All Documentation is in Proper Order ☒
Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

362590

*Container Type & Preservation Codes: P - Plastic, G - Glass Bottle, J - Glass Jar, V - Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

Coffey Environments Pty Ltd NSW
Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Attention: Fiona Wong

Report 363582-S
Client Reference ADDITIONAL: ILC ENFIELD ENAURHOD04419AA
Received Date Dec 17, 2012

Certificate of Analysis



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Client Sample ID			BH16_0.9-1.0M
Sample Matrix			Soil
mgt-LabMark Sample No.			S12-De14656
Date Sampled			Dec 09, 2012
Test/Reference	LOR	Unit	
Polychlorinated Biphenyls (PCB)			
Aroclor-1016	0.5	mg/kg	< 0.5
Aroclor-1232	0.5	mg/kg	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5
Total PCB	0.5	mg/kg	< 0.5
Dibutylchloredate (surr.)	1	%	125
Organochlorine Pesticides (OC)			
4,4'-DDD	0.05	mg/kg	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05
4,4'-DDT	0.2	mg/kg	< 0.2
α-BHC	0.05	mg/kg	< 0.05
α-Chlordane	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
β-BHC	0.05	mg/kg	< 0.05
δ-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
γ-BHC (Lindane)	0.05	mg/kg	< 0.05
γ-Chlordane	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2
Dibutylchloredate (surr.)	1	%	125
Tetrachloro-m-xylene (surr.)	1	%	105
Organophosphorus Pesticides (OP)			
Chlorpyrifos	0.5	mg/kg	< 0.5
Coumaphos	0.5	mg/kg	< 0.5
Demeton (total)	1	mg/kg	< 1
Diazinon	0.5	mg/kg	< 0.5

Client Sample ID			BH16_0.9-1.0M
Sample Matrix			Soil
mgt-LabMark Sample No.			S12-De14656
Date Sampled			Dec 09, 2012
Test/Reference	LOR	Unit	
Organophosphorus Pesticides (OP)			
Dichlorvos	0.5	mg/kg	< 0.5
Dimethoate	0.5	mg/kg	< 0.5
Disulfoton	0.5	mg/kg	< 0.5
Ethoprop	0.5	mg/kg	< 0.5
Fenitrothion	0.5	mg/kg	< 0.5
Fensulfothion	0.5	mg/kg	< 0.5
Fenthion	0.5	mg/kg	< 0.5
Methyl azinphos	0.5	mg/kg	< 0.5
Malathion	0.5	mg/kg	< 0.5
Methyl parathion	0.5	mg/kg	< 0.5
Mevinphos	0.5	mg/kg	< 0.5
Monocrotophos	10	mg/kg	< 10
Parathion	0.5	mg/kg	< 0.5
Phorate	0.5	mg/kg	< 0.5
Profenofos	0.5	mg/kg	< 0.5
Prothiofos	0.5	mg/kg	< 0.5
Ronnel	0.5	mg/kg	< 0.5
Stirophos	0.5	mg/kg	< 0.5
Trichloronate	0.5	mg/kg	< 0.5
Triphenylphosphate (surr.)	1	%	93
% Moisture	0.1	%	15

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

Description	Testing Site	Extracted	Holding Time
Polychlorinated Biphenyls (PCB) - Method: E013 Polychlorinated Biphenyls (PCB)	Sydney	Dec 18, 2012	14 Day
Organochlorine Pesticides (OC) - Method: E013 Organochlorine Pesticides (OC)	Sydney	Dec 18, 2012	14 Day
Organophosphorus Pesticides (OP) - Method: E014 Organophosphorus Pesticides (OP)	Sydney	Dec 18, 2012	14 Day
% Moisture - Method: E005 Moisture Content	Sydney	Dec 18, 2012	28 Day

Company Name: Coffey Environments Pty Ltd NSW
Address: Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067
Client Job No.: ADDITIONAL: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 363582
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 17, 2012 5:42 PM
Due: Dec 19, 2012
Priority: 1 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BH16_0.9-1.0M	Dec 09, 2012		Soil	S12-De14656	X	X	X	X

mgt-LabMark Internal Quality Control Review

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC was performed on samples not pertaining to this report, however QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
3. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB	mg/kg	0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.2			0.2	Pass	
α-BHC	mg/kg	< 0.05			0.05	Pass	
α-Chlordane	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
β-BHC	mg/kg	< 0.05			0.05	Pass	
δ-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
γ-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
γ-Chlordane	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	mg/kg	< 0.5			0.5	Pass	
Coumaphos	mg/kg	< 0.5			0.5	Pass	
Demeton (total)	mg/kg	< 1			1	Pass	
Diazinon	mg/kg	< 0.5			0.5	Pass	
Dichlorvos	mg/kg	< 0.5			0.5	Pass	
Dimethoate	mg/kg	< 0.5			0.5	Pass	
Disulfoton	mg/kg	< 0.5			0.5	Pass	
Ethoprop	mg/kg	< 0.5			0.5	Pass	
Fenitrothion	mg/kg	< 0.5			0.5	Pass	
Fensulfothion	mg/kg	< 0.5			0.5	Pass	
Fenthion	mg/kg	< 0.5			0.5	Pass	
Methyl azinphos	mg/kg	< 0.5			0.5	Pass	
Malathion	mg/kg	< 0.5			0.5	Pass	
Methyl parathion	mg/kg	< 0.5			0.5	Pass	
Mevinphos	mg/kg	< 0.5			0.5	Pass	
Monocrotophos	mg/kg	< 10			10	Pass	
Parathion	mg/kg	< 0.5			0.5	Pass	
Phorate	mg/kg	< 0.5			0.5	Pass	
Profenofos	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Prothiofos	mg/kg	< 0.5			0.5	Pass	
Ronnel	mg/kg	< 0.5			0.5	Pass	
Stirophos	mg/kg	< 0.5			0.5	Pass	
Trichloronate	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB) E013 Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	94			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides (OC) E013 Organochlorine Pesticides (OC)							
4.4'-DDD	%	90			70-130	Pass	
4.4'-DDE	%	77			70-130	Pass	
4.4'-DDT	%	73			70-130	Pass	
a-BHC	%	97			70-130	Pass	
a-Chlordane	%	76			70-130	Pass	
Aldrin	%	80			70-130	Pass	
b-BHC	%	91			70-130	Pass	
d-BHC	%	80			70-130	Pass	
Dieldrin	%	85			70-130	Pass	
Endosulfan I	%	80			70-130	Pass	
Endosulfan II	%	85			70-130	Pass	
Endosulfan sulphate	%	75			70-130	Pass	
Endrin	%	83			70-130	Pass	
Endrin aldehyde	%	70			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-BHC (Lindane)	%	81			70-130	Pass	
g-Chlordane	%	79			70-130	Pass	
Heptachlor	%	79			70-130	Pass	
Heptachlor epoxide	%	81			70-130	Pass	
Hexachlorobenzene	%	108			70-130	Pass	
Methoxychlor	%	85			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides (OP) E014 Organophosphorus Pesticides (OP)							
Chlorpyrifos	%	101			70-130	Pass	
Coumaphos	%	73			70-130	Pass	
Diazinon	%	99			70-130	Pass	
Dichlorvos	%	108			70-130	Pass	
Dimethoate	%	78			70-130	Pass	
Disulfoton	%	98			70-130	Pass	
Ethoprop	%	99			70-130	Pass	
Fenitrothion	%	82			70-130	Pass	
Fensulfothion	%	93			70-130	Pass	
Fenthion	%	96			70-130	Pass	
Methyl azinphos	%	74			70-130	Pass	
Malathion	%	94			70-130	Pass	
Methyl parathion	%	92			70-130	Pass	
Mevinphos	%	96			70-130	Pass	
Monocrotophos	%	73			70-130	Pass	
Parathion	%	99			70-130	Pass	
Phorate	%	101			70-130	Pass	
Profenofos	%	86			70-130	Pass	
Prothiofos	%	97			70-130	Pass	
Ronnel	%	98			70-130	Pass	
Stirophos	%	71			70-130	Pass	
Trichloronate	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides (OC)				Result 1					
4,4'-DDD	S12-De13573	NCP	%	89			70-130	Pass	
4,4'-DDE	S12-De13573	NCP	%	85			70-130	Pass	
4,4'-DDT	S12-De13573	NCP	%	86			70-130	Pass	
a-BHC	S12-De13573	NCP	%	105			70-130	Pass	
a-Chlordane	S12-De13573	NCP	%	83			70-130	Pass	
Aldrin	S12-De13573	NCP	%	87			70-130	Pass	
b-BHC	S12-De13573	NCP	%	102			70-130	Pass	
d-BHC	S12-De13573	NCP	%	89			70-130	Pass	
Dieldrin	S12-De13573	NCP	%	87			70-130	Pass	
Endosulfan I	S12-De13573	NCP	%	87			70-130	Pass	
Endosulfan II	S12-De13573	NCP	%	86			70-130	Pass	
Endosulfan sulphate	S12-De13573	NCP	%	84			70-130	Pass	
Endrin	S12-De13573	NCP	%	86			70-130	Pass	
Endrin aldehyde	S12-De13573	NCP	%	74			70-130	Pass	
Endrin ketone	S12-De13573	NCP	%	88			70-130	Pass	
g-BHC (Lindane)	S12-De13573	NCP	%	88			70-130	Pass	
g-Chlordane	S12-De13573	NCP	%	86			70-130	Pass	
Heptachlor	S12-De13573	NCP	%	90			70-130	Pass	
Heptachlor epoxide	S12-De13573	NCP	%	89			70-130	Pass	
Hexachlorobenzene	S12-De13573	NCP	%	115			70-130	Pass	
Methoxychlor	S12-De13573	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides (OP)				Result 1					
Chlorpyrifos	S12-De08017	NCP	%	102			70-130	Pass	
Coumaphos	S12-De08017	NCP	%	119			70-130	Pass	
Diazinon	S12-De08017	NCP	%	100			70-130	Pass	
Dichlorvos	S12-De08017	NCP	%	99			70-130	Pass	
Dimethoate	S12-De08017	NCP	%	106			70-130	Pass	
Disulfoton	S12-De08017	NCP	%	80			70-130	Pass	
Ethoprop	S12-De08017	NCP	%	102			70-130	Pass	
Fenitrothion	S12-De08017	NCP	%	107			70-130	Pass	
Fensulfothion	S12-De08017	NCP	%	117			70-130	Pass	
Fenthion	S12-De08017	NCP	%	102			70-130	Pass	
Methyl azinphos	S12-De08017	NCP	%	112			70-130	Pass	
Malathion	S12-De08017	NCP	%	116			70-130	Pass	
Methyl parathion	S12-De08017	NCP	%	118			70-130	Pass	
Mevinphos	S12-De08017	NCP	%	100			70-130	Pass	
Monocrotophos	S12-De08017	NCP	%	97			70-130	Pass	
Parathion	S12-De08017	NCP	%	103			70-130	Pass	
Phorate	S12-De08017	NCP	%	95			70-130	Pass	
Profenofos	S12-De08017	NCP	%	114			70-130	Pass	
Prothiofos	S12-De08017	NCP	%	109			70-130	Pass	
Ronnel	S12-De08017	NCP	%	102			70-130	Pass	
Stirophos	S12-De08017	NCP	%	112			70-130	Pass	
Trichloronate	S12-De08017	NCP	%	105			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides (OC)				Result 1	Result 2	RPD			
4,4'-DDD	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	S12-De13573	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
a-BHC	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-Chlordane	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides (OC)				Result 1	Result 2	RPD		
Aldrin	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-Chlordane	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S12-De13573	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S12-De13573	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Chlorpyrifos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Diazinon	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfothion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl azinphos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	S12-De13573	NCP	mg/kg	< 10	< 10	<1	30%	Pass
Parathion	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phorate	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Profenofos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Prothiofos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Stirophos	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	S12-De13573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

Jean Heng	Client Services
Ryan Hamilton	Senior Analyst-Organic (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

mgt-LabMark shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall mgt-LabMark be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Company Name: Coffey Environments Pty Ltd NSW
Address: Level 20, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067
Client Job No.: ADDITIONAL: ILC ENFIELD ENAURHOD04419AA

Order No.:
Report #: 363582
Phone: +61 2 9406 1000
Fax: +61 2 9406 1004

Received: Dec 17, 2012 5:42 PM
Due: Dec 19, 2012
Priority: 1 Day
Contact Name: Fiona Wong

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Polychlorinated Biphenyls (PCB)	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BH16_0.9-1.0M	Dec 09, 2012		Soil	S12-De14656	X	X	X	X

Sample Receipt Advice

Company name: **Coffey Environments Pty Ltd NSW**
Contact name: **Fiona Wong**
Client job number: **ADDITIONAL: ILC ENFIELD ENAURHOD04419AA**
COC number: **103855-103861**
Turn around time: **1 Day**
Date/Time received: **Dec 17, 2012 5:42 PM**
mgt-LabMark reference: **363582**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ Sample Temperature of a random sample selected from the batch as recorded by mgt-LabMark
Sample Receipt : 4 degrees Celsius.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Organic samples had Teflon liners.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Additional analysis for report No. 362590
Samples received by the laboratory after 4pm are deemed to have been received the following working day.

Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: jean.heng@mgtlabmark.com.au

Results will be delivered electronically via e.mail to Fiona Wong - fiona_wong@coffey.com.

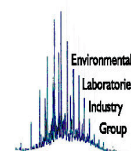
mgt-LabMark Sample Receipt



Environmental Laboratory
Air Analysis
Water Analysis
Soil Contamination Analysis

NATA Accreditation
Stack Emission Sampling & Analysis
Trade Waste Sampling & Analysis
Groundwater Sampling & Analysis

35Years of Environmental Analysis & Experience – fully Australian Owned



URGENT

#363582

Enquiries Syd

From: Jean Heng
Sent: Monday, 17 December 2012 5:42 PM
To: Enviro Syd
Subject: FW: mgt-Labmark Test Results - Report 362590 : Site ILC ENFIELD ENAURHOD04419AA

Follow Up Flag: Follow up
Flag Status: Flagged

Please log this in on a 1day TAT.

Thank you.

Regards,
Jean Heng
Client Manager NSW

Reception	Sample Receipt
Unit F6, Building F	Unit F3, Building F
16 Mars Road	16 Mars Road
Lane Cove West, NSW 2066	Lane Cove West, NSW 2066
T: :(+61) (2) 9900 8500	
DL:(+61) (2) 9900 8460	
M: 0403 637 214	
E: jean.heng@mgtLabMark.com.au	

-----Original Message-----

From: Fiona Wong [mailto:Fiona_Wong@coffey.com]
Sent: Monday, December 17, 2012 5:30 PM
To: Jean Heng
Subject: RE: mgt-Labmark Test Results - Report 362590 : Site ILC ENFIELD ENAURHOD04419AA

Hi Jean,

Would you be able to run OCP, OPP and PCB for the soil sample BH16_0.9-1.0m for 1 day TAT?

I will need it for the QA/QC.

Many thanks, Fiona

FIONA WONG
Associate
Coffey Environments
Level 19, Citadel Tower, 799 Pacific Highway, Chatswood NSW 2067

#363582

T +61 2 9406 1000 D +61 2 9406 1213 F +61 2 9406 1004 M + 61 409 367 752
coffey.com

-----Original Message-----

From: jean.heng@mgtlabmark.com.au [mailto:jean.heng@mgtlabmark.com.au]
Sent: Friday, 14 December 2012 6:13 PM
To: Fiona Wong
Subject: mgt-Labmark Test Results - Report 362590 : Site ILC ENFIELD ENAURHOD04419AA

Hi Fiona,

Sorry for the delay.

Please find results and Asbestos report for your project detailed in the subject header. If you have any questions regarding these results please feel free to discuss with either myself or Bob Symons (Bob.Symons@mgtLabMark.com.au)

****Please find attached our operation dates for the Christmas and New Year's period for 2012-2013****

Kind regards,

Jean Heng
NSW Client Manager
Jean.Heng@mgtLabMark.com.au

mgt LabMark
Unit F6, Building F
16 Mars Road
Lane Cove West, NSW 2066

T:(+61) (2) 9900 8460
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M: 0413 637 214

Website: <http://www.mgtLabMark.com.au>

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CERTIFICATE OF ANALYSIS

82990

Client:

Coffey Environment

Level 19, Tower B, Citadel Tower
799 Pacific Hwy
Chatswood
NSW 2067

Attention: Fiona Wong, Keri Hartog

Sample log in details:

Your Reference:

ENAU RHOD04419AA

No. of samples:

2 Soils

Date samples received / completed instructions received

12/12/12 / 12/12/12

Analysis Details:

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

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

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

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

Report Details:

Date results requested by: / Issue Date:

17/12/12 / 17/12/12

Date of Preliminary Report:

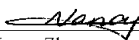
Not issued

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

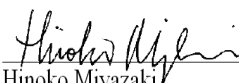
Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:


Nancy Zhang
Chemist


Rhian Morgan
Reporting Supervisor


Hinoko Miyazaki
Chemist


Jeremy Faircloth
Chemist

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	82990-1	82990-2
Your Reference	-----	Dup2A	Dup6A
Date Sampled	-----	08/12/2012	09/12/2012
Type of sample		Soil	Soil
Date extracted	-	13/12/2012	13/12/2012
Date analysed	-	13/12/2012	13/12/2012
TRHC ₆ - C ₉	mg/kg	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	113	107

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	82990-1	82990-2
Your Reference	-----	Dup2A	Dup6A
Date Sampled	-----	08/12/2012	09/12/2012
Type of sample		Soil	Soil
Date extracted	-	13/12/2012	13/12/2012
Date analysed	-	14/12/2012	14/12/2012
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100
Surrogate o-Terphenyl	%	86	84

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	82990-1 Dup2A 08/12/2012 Soil	82990-2 Dup6A 09/12/2012 Soil
Date extracted	-	13/12/2012	13/12/2012
Date analysed	-	14/12/2012	14/12/2012
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.07	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Benzo(a)pyrene TEQ	mg/kg	<0.5	<0.5
Surrogate <i>p</i> -Terphenyl-d ₁₄	%	95	89

Organochlorine Pesticides in soil		
Our Reference:	UNITS	82990-1
Your Reference	-----	Dup2A
Date Sampled	-----	08/12/2012
Type of sample		Soil
Date extracted	-	13/12/2012
Date analysed	-	15/12/2012
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 TCMX	%	87

Organophosphorus Pesticides		
Our Reference:	UNITS	82990-1
Your Reference	-----	Dup2A
Date Sampled	-----	08/12/2012
Type of sample		Soil
Date extracted	-	13/12/2012
Date analysed	-	15/12/2012
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 TCMX	%	87

PCBs in Soil	UNITS	82990-1
Our Reference:	-----	Dup2A
Your Reference	-----	08/12/2012
Date Sampled		Soil
Type of sample		
Date extracted	-	13/12/2012
Date analysed	-	15/12/2012
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	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	%	87

Acid Extractable metals in soil			
Our Reference:	UNITS	82990-1	82990-2
Your Reference	-----	Dup2A	Dup6A
Date Sampled	-----	08/12/2012	09/12/2012
Type of sample		Soil	Soil
Date digested	-	13/12/2012	13/12/2012
Date analysed	-	13/12/2012	13/12/2012
Arsenic	mg/kg	16	7
Cadmium	mg/kg	<0.5	<0.5
Chromium	mg/kg	12	15
Copper	mg/kg	20	5
Lead	mg/kg	18	10
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	4	2
Zinc	mg/kg	32	4

Moisture			
Our Reference:	UNITS	82990-1	82990-2
Your Reference	-----	Dup2A	Dup6A
Date Sampled	-----	08/12/2012	09/12/2012
Type of sample		Soil	Soil
Date prepared	-	13/12/2012	13/12/2012
Date analysed	-	14/12/2012	14/12/2012
Moisture	%	17	18

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.

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	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
vTPHC ₆ - C ₁₀ less BTEX(F1)	mg/kg	25	Org-016	25	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	121%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	120%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	102%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	117%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	119%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	109	[NT]	[NT]	LCS-1	110%
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	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-1	14/12/2012
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	75%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	92%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	85%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	75%
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	50	Org-003	50	[NT]	[NT]	[NR]	[NR]
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	92%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	82%
Surrogate o-Terphenyl	%		Org-003	83	[NT]	[NT]	LCS-1	121%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-1	14/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	110%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	112%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	109%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	105%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	106%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	102%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-1	98%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	0.5	[NT]	[NT]	[NR]	[NR]
Surrogate <i>p</i> -Terphenyl-d ₁₄	%		Org-012 subset	118	[NT]	[NT]	LCS-1	101%

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	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			15/12/2012	[NT]	[NT]	LCS-1	15/12/2012
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	89%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	99%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	87%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	96%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	94%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	102%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	96%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	92%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	107%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-1	91%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	85	[NT]	[NT]	LCS-1	84%

Client Reference: ENAURHOD04419AA

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			15/12/2012	[NT]	[NT]	LCS-1	15/12/2012
Diazinon	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Dimethoate	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Ronnel	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-1	95%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-1	92%
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	[NT]	[NT]	LCS-1	96%
Surrogate TCMX	%		Org-008	85	[NT]	[NT]	LCS-1	86%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-1	13/12/2012
Date analysed	-			15/12/2012	[NT]	[NT]	LCS-1	15/12/2012
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-1	98%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	85	[NT]	[NT]	LCS-1	81%
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	-			13/12/2012	[NT]	[NT]	LCS-3	13/12/2012
Date analysed	-			13/12/2012	[NT]	[NT]	LCS-3	13/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	99%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-3	97%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	101%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	100%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	99%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	86%

QUALITY CONTROL	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	[NT]	[NT]	LCS-3	101%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	100%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				

Report Comments:

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

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.

