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DETAILED ENVIRONMENTAL SITE ASSESSMENT REPORT
57, 63 & 83 CHURCH STREET, PARRAMATTA, NEW SOUTH WALES
PREPARED FOR GATEWAY PARRAMATTA ONE PTY LTD
REPORT ID: CES150907-DYL-AE

Written by: J. Dobson

Reviewed by: D. Johnson

Authorised by: D. Lowe
Date: 3 January 2016

Telephone: 02 8569 2200 • **Fax**: 02 9552 4399 • Level 1, Suite 3
55-65 Grandview Street • Pymble NSW 2073 • Australia • www.consultingearth.com.au

Document Control

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LIST OF ABBREVIATIONS

ACM	Asbestos Containing Material
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CES	Consulting Earth Scientists Pty Ltd
CLM	Contaminated Land Management
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DECCW	Department of Environment and Climate Change and Water
DLWC	Department of Land and Water Conservation
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
km	Kilometre
LGA	Local Government Area
LPI	Land and Property Information Division
LEP	Local Environmental Plan
LOR	Limit of Reporting
m	Metre
mm	Millimetre
mbgl	Metres Below Ground Level
mbTOC	Metres Below Top Of Casing
NEPM	National Environment Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticide
OEH	Office of Environment and Heritage
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PID	Photoionisation Detector
PSP	Project Safety Plan
QA / QC	Quality Assurance / Quality Control
SAQP	Sample Analysis Quality Plan
TRHs	Total Recoverable Hydrocarbons
USTs	Underground Storage Tanks
VOCs	Volatile Organic Compounds

1 INTRODUCTION

Consulting Earth Scientists Pty Ltd (CES) was commissioned by Gateway Parramatta One Pty Ltd (Gateway One) to carry out a Detailed Environmental Site Assessment (ESA) of the properties located at 57, 63 and 83 Church Street, Parramatta, New South Wales (NSW) (the site). It is understood that Gateway One intends to redevelop the site with the construction of mixed residential and commercial high-density developments together with an area of parkland in the southernmost portion of the development. The site location is presented in **Figure 1** and a site layout plan is presented in **Figure 2**.

This report has been prepared in accordance with the CES proposal dated 18 September 2015 (Reference: CES150907-DYL-AA) and is in general accordance with the requirements published by the NSW Environment Protection Authority (EPA) *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA), 2011 and the National Environmental Protection Measure (NEPM) *Guidelines on Site Characterisation* (Schedule B2) 1999, as amended 2013.

2 OBJECTIVES AND SCOPE OF WORKS

In the context of the proposed future end use, the objective of the Detailed ESA was to assess potential contamination issues at the site which may have resulted from historic and current site operations. To achieve the objective, CES completed the following scope of works:

- Preparation of site-specific Project Safety Plan (PSP);
- Review of available environmental reports pertaining to the site;
- Development of a sample analysis quality plan (SAQP);
- Location of underground and aboveground services in proposed intrusive investigation areas;
- Ground penetrating radar (GPR) to check for the position and orientation of underground storage tanks (USTs);
- Borehole drilling and logging of encountered geology;
- Collection of soil samples and laboratory submission for the identified contaminants of potential concern (COPC);
- Installation of two groundwater monitoring wells, collection of groundwater samples (from both new and pre-existing groundwater monitoring wells) and laboratory submission for the identified COPC;

- Implementation of a Quality Assurance / Quality Control (QA / QC) program to confirm data quality;
- Management of field and laboratory data; and
- Preparation of this Detailed ESA report.

3 SITE INFORMATION

3.1 *SITE IDENTIFICATION*

The properties are located at 57, 63 and 83 Church Street, Parramatta, NSW 2150. The northern portion comprises Lot 10 in DP 733044 and Lot B in DP 304570. The central portion comprises Lot 20 in DP 732622. The southern portion comprises Lot 114 in DP 129484, Lot 15 in DP 651039 and Lot 16 in DP 12623.

The site location is presented on **Figure 1** and a site layout plan is presented on **Figure 2**.

3.2 *SITE ZONING*

The Parramatta Local Environmental Plan (LEP) 2007 indicates that the site is currently zoned '5B Business Development'.

3.3 *SITE DESCRIPTION*

At the time of the investigation the site consisted of the following:

- Lot B was unpaved and used for car parking. There was a shipping container located along the northern portion;
- Lot 10 was predominately concrete paved and used for the storage of new motor vehicles. It also included a former car showroom with an underground storage tank (UST) located within the southern portion (adjacent to the showroom);
- Lot 20 consisted of former vehicle workshops and showroom. It was largely vacant, with small portions used for storage; and
- Lots 114, 15 and 16 consisted of a former vehicle showroom and concrete-paved area utilised for the storage of new motor vehicles. A culvert was located in the southwest corner.

A photographic log of the site is included as **Appendix A**.

3.4 *SURROUNDING LAND USE*

Based on observations from the site inspection, the surrounding land use comprised the following:

- **North** – Bordered by the Great Western Highway with a car sales and service centre opposite;

- **East** – to the immediate east of the site is Church Street (known locally as Auto Alley). On the adjacent side of Church Street are commercial and light industrial businesses which include a public house and various vehicle dealerships;
- **South** – Bordered by vehicle dealership with further vehicle sales businesses beyond; and
- **West** – largely consists of residential (a combination of apartments and detached houses).

3.5 *TOPOGRAPHY AND DRAINAGE*

The northwest portion of the site is approximately 14 m above Australian Height Datum (m AHD), falling to approximately 10 m in the rest of the site.

There are several drains located around the site, located in the south of Lot 10 (the lowest topographical point of the Lot) and also in the south of Lot 20 (again at the lowest topographical point of the lot).

3.6 *GEOLOGY*

Information obtained from the Department of Mines, Sydney Sheet SI 56-5, (1966) (1:25,000) indicated that the site was underlain by Bringelly Shale, Minchinbury Sandstone and Ashfield Shale of the Liverpool Sub-Group of the Wianamatta Group and was formed during the Triassic period. The geology is described as shale with some sandstone beds. No fault lines, dips or other geological features were noted in the surrounding 3 km of the site. No information is provided about the superficial geology of the site but given the history of the site, fill material is likely to be encountered.

3.7 *SURFACE WATER*

A concrete-lined culvert is present in the southern portion of the site in Lots 15 and 16, bordering Lot 114. The direction of flow was to the east, presumably towards the Parramatta River. The water appeared clear and slow flowing at the time of the site inspection.

The Parramatta River is located approximately 1.1 kilometre (km) to the northeast of the site and flows in an easterly direction, towards Sydney Harbour.

3.8 *HYDROGEOLOGY*

It is expected that groundwater would flow towards the Parramatta River in a north / northeast direction. Registered groundwater information obtained from the NSW Department of Primary Industries – Office of Water / Water Administration Ministerial Corporation (http://allwaterdata.water.nsw.gov.au/water.stm accessed 19 October 2015) was completed for an area covering one kilometre from the site. 13 registered bores were located, details are presented in **Table 1** below.

Table 1: Registered Groundwater Abstraction Bores (within 1,000 m of the site)

Identification	**Registered Use**	**Depth** (m)	**Standing Water Level** (metres below ground level)	**Distance and Direction From Site** (m)
GW110402	Monitoring Bore	8.0	No Details	500 South / Southwest

Identification	Registered Use	Depth (m)	Standing Water Level (metres below ground level)	Distance and Direction From Site (m)
GW110403	Monitoring Bore	9.0	No Details	500 South / Southwest
GW110404	Monitoring Bore	9.0	No Details	500 South / Southwest
GW110396	Monitoring Bore	7.0	No Details	400 South
GW110397	Monitoring Bore	5.0	No Details	500 South / Southwest
GW110398	Monitoring Bore	6.0	No Details	500 South / Southwest
GW110399	Monitoring Bore	5.3	No Details	400 South
GW110400	Monitoring Bore	5.4	No Details	400 South
GW110401	Monitoring Bore	7.0	No Details	400 South
GW111322	Monitoring Bore	3.6	No Details	700 Southeast
GW111323	Monitoring Bore	4.1	No Details	700 Southeast
GW111324	Monitoring Bore	8.1	No Details	700 Southeast
GW024667	General / Domestic Use	4.5	2.4	1,000 Northeast

3.9 *ACID SULFATE SOILS*

A review of the Department of Land and Water Conservation (1997) ASS risk map for Prospect / Parramatta River indicated that the southeast half of Lot 20 and Lots 114, 15 and 16 were classified as disturbed terrain with an elevation of greater than 4 mAHD. It states, terrain may include:

- Filled areas (as a result of land reclamation from low lying swamps);
- Areas that have been mined or dredged;
- Areas that have undergone heavy ground disturbance through general urban development or construction of dams or levees.

3.10 *METEOROLOGY*

Information on meteorology has been obtained from the Bureau of Meteorology website (http://www.bom.gov.au accessed 19 October 2015) and is summarised below:

- Mean annual maximum temperature during summer (December to February): 28.4 degrees Celsius;
- Mean annual lowest temperature during winter (June to August): 17.3 degrees Celsius; and
- Mean annual rainfall: 963.9 mm

3.11 *PREVIOUS ENVIRONMENTAL REPORT*

AECOM (2014) *Phase 1 Environmental Site Assessment, Church Street Rezoning Project. Reference 60220146_1.7.*

This Phase 1 ESA comprised a site inspection and a review of historical information and current environmental information, the findings of which were used to assess potential risks to the site with respect to contamination, where additional investigations and / or remediation may be necessary. Based on the findings of the Phase 1 ESA, a preliminary conceptual site model (CSM) was developed, which identified areas of environmental concern (AEC), contaminants of

potential concern (COPC), potential exposure pathways and sensitive receptors. The preliminary CSM identified the following:

- Three USTs currently in use and four historical USTs (one of which was considered likely to remain on site) and associated bowser and transfer lines;
- Light industrial / commercial uses of the surrounding properties;
- Drains around the site transporting surface run-off to a plant room (associated with the site workshop);
- The existing buildings on the site;
- Car servicing centre;
- Surface detritus observed within Lot B;
- Potential acid sulfate soils;
- Electricity substations in the northern and southern parcels;
- Storage of chemicals (including hazardous substances) around the site;
- On-site filling of demolition materials associated with historic on-site buildings;
- Filling of the site for levelling purposes associated with the development of the site;
- Fill material associated with the infill of former USTs;
- Burnt-out shipping container; and
- Previous industrial / commercial buildings unidentified on the site.

In addition to the above, the potential for pesticide impacts was also acknowledged based on the understanding that the site was previously agricultural land.

AECOM recommended that a Phase 2 ESA investigation be undertaken which would include the sampling and analysis of representative site soil and groundwater in order to further characterise the potential risks to human health and the environment.

4 PRELIMINARY CONCEPTUAL SITE MODEL

A Preliminary CSM was developed in consideration of the historical information, current site conditions and proposed future redevelopment.

4.1 *POTENTIAL SOURCES OF CONTAMINATION*

The following potential contamination sources are relevant to the site:

Uncontrolled Fill

Filling would have occurred on site for the purposes of levelling and backfilling of excavations (e.g. tank pits). The origin of the fill is unknown and the potential exists for this material to be contaminated. COPC typically encountered in uncontrolled fill include:

- Total Recoverable Hydrocarbons (TRH);
- BTEX;
- PAHs;
- Heavy metals;

- OCPs; and
- Asbestos.

Auto Service / Repairs

The site has been occupied by motor / auto repair business for many years. Works include motor and body repairs, including spray painting. The storage and usage of petroleum products such as oils, paints and paint thinners will have occurred. COPC associated with these activities include:

- Petroleum hydrocarbons (TRH / BTEX);
- Polycyclic aromatic hydrocarbons (PAHs);
- Volatile Organic Hydrocarbons (VOCs);
- Phenols; and
- Heavy metals.

Underground Storage Tanks

WorkCover records and the GPR survey indicated the presence of USTs at the site used for the storage of petroleum products. COPC typically associated with USTs include:

- TRH / BTEX;
- PAHs; and
- Lead.

Hazardous Building Materials

On site structures were constructed during a time when hazardous building materials were likely used (lead-based paints and asbestos). These materials have the potential to be buried on-site from the demolition of previous structures.

Electrical Substation

PCBs are typically associated with electrical substations and may be found within soils underlying or within the vicinity. During the site inspection a substation was observed in the southernmost portion of the site.

4.2 *POTENTIAL OFF-SITE SOURCES OF CONTAMINATION*

The land use surrounding the site has been a mixture of residential and light industrial / commercial since the 1950s. Surrounding land use at the time of this investigation included several high-density residential apartment blocks and commercial properties. The COPC are similar to those already identified for the site.

4.3 *POTENTIAL PATHWAYS*

The pathways through which contaminants may reach receptors are in part dependent on the nature and behaviour of the contaminant. The following potential pathways have been identified:

- Soil ingestion and dermal contact with impacted fill soils;
- Inhalation of contaminants in the particulate form (dust);

- Volatilisation and migration of volatile organic contaminants from soil and / or groundwater to indoor (following future building construction) or outdoor air and inhalation;
- Leaching of contaminants from site soils into groundwater; and
- Lateral migration of contaminants in groundwater (dissolved and immiscible phases) to surface waters.

Preferential flow pathways may be provided by:

- More permeable layers within the fill and / or natural strata; and
- Underground services.

4.4 *RECEPTORS*

Potential sensitive receptors (on and off-site) are listed below:

- Future construction workers during the construction of the proposed redevelopment;
- Future occupants of the residential buildings;
- Groundwater beneath the site; and
- Surface water features including the culvert that transects the site and ultimately the Parramatta River.

4.5 *SUMMARY*

The results of this Preliminary CSM indicate that the site and surrounding areas have a mixed history of residential, light industrial and commercial land use. Potentially contaminating land use activities that apply to the site include:

- Application of uncontrolled fill on the site;
- Storage of petroleum products;
- Vehicle maintenance / repairs; and
- Demolition of former site structures possibly constructed from hazardous building materials.

Based on the identified site history there is potential for contamination of the land. An investigation of the soil and groundwater is recommended to assess the presence / absence of land contamination at the site.

5 DETAILED ENVIRONMENTAL SITE ASSESSMENT

5.1 *DATA QUALITY OBJECTIVES*

As stated in Appendix B of Schedule B2 *Guidelines on Site Characterisation* (NEPC 1999, amended 2013), the Data Quality Objectives (DQO) process is used to “define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site”. The seven-step DQO process that was adopted for this investigation is outlined below:

Step 1: State the problem

The site is proposed for high density mixed commercial and residential redevelopment. The Preliminary CSM has identified potential contaminating activities to have occurred on site. Although a previous environmental assessment has been carried out, the current contamination status and suitability of the site for the proposed redevelopment is unknown.

Step 2: Identify the decision

Excluding the known requirement to remove the USTs under UPSS Regulations 2014, the assessment decision states:

- The results of the investigation are sufficient to conclude the site is suitable for mixed commercial and residential redevelopment including an area of parkland without the requirement for remediation or further environmental assessment.

Step 3: Identify inputs into the decision

- Identification of issues of potential environmental concern;
- Appropriate identification of COPCs;
- Robust targeted sampling and analysis program of fill, shallow soils and groundwater across / underlying the site;
- Assessment for the presence of asbestos in fill;
- A judgemental / targeted based sampling and analysis program of areas of concern identified; and
- Screening sample analytical results against appropriate Tier 1 Assessment Criteria for the intended land use (residential and public space / recreational).

Step 4: Define the boundaries of the site

The project boundary is defined as the area within the site boundary presented on **Figure 2**.

Step 5: Develop a decision rule

To conclude the decision, the assessment decision rules must be met. The results of sampling and analysis of soil and groundwater must meet the following criteria:

- COPC do not exist in soil / groundwater samples at concentrations in excess of Tier 1 Assessment Criteria.

The results of the asbestos assessment must meet the following criteria:

- No observed Asbestos Containing Material (ACM) on site surface less than screening criteria; and
- No detections of friable asbestos within analytical results.

Step 6: Specify acceptable limits on decision errors

The field sampling methodology, sample preservation techniques and laboratory analytical procedures must be appropriate to provide confidence in data quality so any comparison against assessment criteria can be considered reliable. This is achieved by defining and comparing results against Data Quality Indicators (**Section 8.5**).

Step 7: Optimise the design for obtaining data

This is achieved by sampling plan design in consideration of the available site history information, area of investigation, contaminant behaviour in the environment, and likely spatial distribution of contamination.

5.2 *SAMPLING ANALYSIS PLAN*

CES undertook an assessment of soil and groundwater at the site during the period 7 - 15 September 2015.

Based on the site history, contamination, should it exist, is likely to be expressed in the following environmental media:

- Shallow soil beneath the buildings;
- Fill material applied to the land;
- Shallow and deep soils surrounding underground point sources of contamination (USTs); and
- Groundwater.

In consideration of the COPC and their potential spatial extent, CES carried out a judgemental / targeted intrusive assessment of soil and groundwater at the site. The sampling rationale is presented in **Table 4**.

Table 4: Soil and Groundwater Sampling Rationale

Sample Location	Rationale
BH1	To assess fill / soil along the northern boundary of the northernmost lot (Lot 10, DP733044), adjacent to the Great Western Highway.
BH2	To assess fill / soil along the northeast boundary of the northernmost lot (Lot 10, DP733044), adjacent to Church Street.
BH3	General site coverage to assess fill / soil within the northernmost lot (Lot 10, DP733044).
BH4	General site coverage to assess fill / soil within the northernmost lot (Lot 10, DP733044).
BH5	To assess fill / soil along the western portion of the northernmost lot (Lot 10, DP733044), adjacent to the former sales building / office.
BH6	General site coverage to assess fill / soil within the northernmost lot (Lot 10, DP733044).
BH7	General site coverage to assess fill / soil within the northernmost lot (Lot 10, DP733044).
BH8	To assess fill / soil along the eastern boundary of the northernmost lot (Lot 10, DP733044), adjacent to Church Street (Lot 10, DP733044).
BH9	To assess fill / soil along the southeast boundary of the northernmost lot (Lot 10, DP733044), adjacent to Church Street and Early Street.
BH10	To assess fill / soil along the southern boundary of the northernmost lot (Lot 10, DP733044), adjacent to Early Street.
BH11	General site coverage to assess fill / soil within the northernmost lot (Lot 10, DP733044).
BH12	To assess fill / soil along the western portion of the northernmost lot (Lot 10, DP733044), adjacent to the former sales building / office.
BH13	To assess fill / soil along the northern boundary of the northwest lot (Lot B, DP304570).
BH16	To assess fill / soil along the eastern boundary of the northwest lot (Lot B, DP304570), adjacent to the UST located in the neighbouring lot (Lot 10, DP733044).
BH17	To assess fill / soil along the southern boundary of the northwest lot (Lot B, DP304570).
BH18	To assess fill / soil along the western boundary of the northwest lot (Lot B, DP304570).
MW19	To assess fill / soil and groundwater along the western boundary of the northwest lot (Lot B, DP304570).

Sample Location	Rationale
BH20	To assess fill / soil along the northwest boundary of the central lot (Lot 20, DP732622).
BH21	To assess fill / soil in proximity to the suspected UST located in the central lot (Lot 20, DP732622).
MW21	To assess fill / soil and groundwater along the southern boundary of the southern lot (Lot 15, DP651039), adjacent to the culvert.
BH22	To assess fill / soil along the northeast boundary of the central lot (Lot 20, DP732622).
BH23	To assess fill / soil along the eastern boundary of the central lot (Lot 20, DP732622).
BH24	To assess fill / soil along the southern boundary of the central lot (Lot 20, DP732622).
BH25	To assess fill / soil along the southern boundary of the central lot (Lot 20, DP732622), in proximity to the former plant room.
BH25	To assess fill / soil along the southern boundary of the central lot (Lot 20, DP732622), in proximity to the former plant room.
BH26	To assess fill / soil along the southern boundary of the central lot (Lot 20, DP732622), in proximity to the former plant room.
BH27	To assess fill / soil along the northeast boundary of the southernmost lot (Lot 16, DP12623), adjacent to the Lansdowne Street.
BH28	To assess fill / soil along the northern boundary of the southern lot (Lot 15, DP651039), adjacent to the Lansdowne Street.
BH29	To assess fill / soil along the southern boundary of the southern lot (Lot 15, DP651039), adjacent to the culvert.
BH31	To assess fill / soil and groundwater along the western boundary of the southernmost lot (Lot 16, DP12623).
BH32	To assess fill / soil and groundwater along the western boundary of the southernmost lot (Lot 16, DP12623).

As part of the assessment, CES also collected groundwater samples from pre-existing groundwater monitoring wells that were identified on site (MW01, MW03, MW09, MW11, MW17, MW18, MW24, MW33 and MW38).

6 INVESTIGATION METHODOLOGIES

6.1 *SOIL SAMPLING METHODOLOGY*

Soil sampling took place from the 7 to 9 September 2015. The soil samples were collected by means of boreholes using a combination of push-tube and solid stem rotary drilling methods. Upon completion of sampling and logging, with the exception of MW19 and MW21 all boreholes were backfilled to surface grade. Boreholes MW19 and MW21 were fitted with groundwater monitoring wells.

Soil samples were placed in laboratory prepared jars, labelled and placed on ice in a cool-box for transport. A chain of custody (COC) form was prepared to accompany the cool-boxes to a NATA Accredited Laboratory for the analysis of COPC.

All samples from soil borings were visually inspected for asbestos containing material. A soil subsample was placed in a zip lock bag for field screening for volatile organic compounds using a Photoionisation Detector (PID.

Soil sample and groundwater monitoring well locations are presented on **Figure 3**. Borehole logs are provided in **Appendix B**.

6.2 *GROUNDWATER SAMPLING METHODOLOGY*

The new groundwater monitoring wells (MW19 and MW21) were installed in accordance with *Minimum Requirements for Water Bores in Australia* (LWBC, 2003). The wells were constructed with PVC casing that was screened across the groundwater interface. A sand filter pack extended from the base of the borings to 0.5 m above the top of the slotted PVC casing and was sealed with 0.5 m of hydrated bentonite pellets above the sand pack. A cement grout was used to seal the borehole annulus to surface. The wells were finished with end caps and were developed one week following installation by a surge and purge method utilising disposable bailers. Well construction details are presented in the borehole logs (**Appendix A**). Details of both newly installed and pre-existing groundwater monitoring wells are summarised in the **Table 5**.

Table 5: Groundwater Monitoring Well Details

Well Identification	**Total Depth** (mBTOC)	**Depth to Water** (mBTOC) **12/09/15**	**Top of Casing Elevation (mAHD)**	**Groundwater Elevation (mAHD) 12/09/15**
MW01*	7.07	2.90	14.78	11.88
MW03*	6.85	1.63	12.31	10.68
MW09*	5.57	2.15	14.175	12.025
MW11*	7.28	2.26	13.47	11.21
MW17*	6.86	1.55	12.23	10.68
MW18*	6.32	2.53	11.95	9.42
MW19	6.54	2.46	14.22	11.76
MW21*	5.90	1.14	11.85	10.71
MW22*	7.17	2.47	11.985	9.515
MW24*	7.17	2.59	11.695	9.105
MW33*	5.93	2.60	11.855	9.255
MW38*	5.00	2.90	12.015	9.115

mbgl = Metres Below Ground Level
mBTOC = Metres Below Top of Well Casing
* = Pre-existing Groundwater Monitoring Wells (IDs were displayed on the bitumen surrounds of each well)

The groundwater samples were collected between 12 and 15 September 2015. Dedicated LDPE tubing was used for each well and samples were placed in 0.5 litre glass amber bottles and glass vials. The samples were then labelled, placed on ice and transported with a chain of custody form to a NATA Accredited Laboratory.

Groundwater field data sheets are presented in **Appendix C**.

6.3 *QUALITY ASSURANCE / QUALITY CONTROL*

Quality assurance procedures adopted for soil assessment included:

- Appropriately trained field personnel;
- Selecting soil samples that had not come into direct contact with sampling equipment;
- Cleaning sampling equipment of soil debris between each sample location;
- Changing disposable gloves between sample locations;
- Placing samples immediate on ice following sampling; and

- Ensuring analysis was performed within recommended holding times.

Quality assurance procedures for groundwater sampling included:

- Dedicated LDPE sample tubing to each well;
- Decontamination of interface probe between samples using fresh water;
- Placing samples immediately on ice following sampling;
- Ensuring correct sample containers and preservation techniques were employed for contaminants being analysed; and
- Ensuring analysis was performed within recommending holding times.

Quality control (QC) sampling was undertaken in general accordance with specifications outlined in AS4482.1. *Guide to Sampling and Investigation of Potentially Contaminated Soil*. Field QC samples are presented in **Table 6**.

Table 6: Field Quality Control Samples

Sample Identification	Sample Type	Sample Matrix	Rate of Collection
QAQC1	Field duplicate of BH20-02	Soil	1 in 20 samples
QAQC3	Field triplicate of BH20-02	Soil	1 in 20 samples
QAQC2	Field duplicate of BH30-01	Soil	1 in 20 samples
QAQC101	Field duplicate of MW4	Water	1 in 20 samples
QAQC103	Field triplicate of MW4	Water	1 in 20 samples

The laboratory internal QC procedures are consistent with NEPM.

6.4 *LABORATORIES*

The following NATA Accredited laboratories were engaged to conduct sample analysis:

- Primary laboratory – Envirolab Sydney Laboratory; and
- Secondary laboratory – ALS Sydney Laboratory.

7 ASSESSMENT CRITERIA

The following were adopted as Tier 1 Assessment Criteria. Tier 1 Assessment Criteria are generic assessment criteria derived from specific land uses and exposure settings and are inherently conservative.

7.1 *SOIL ASSESSMENT CRITERIA*

The following were adopted as Assessment Criteria for soil:

Health investigation levels (HILs) have been developed for a broad range of metals and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure and are generic to all soil types. For this site the results have been compared against criteria applicable to residential with minimal access to soils (HIL B) and public open space (HIL C) which is considered relevant for the southernmost portion of the site which is intended for use as a park.

Health screening levels (HSLs) have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures. They apply to different soil types and for this site the results have been compared against the high density residential criteria (HSL B) and recreational / public open space criteria (HSL C) for sand (most conservative value).

Ecological investigation and screening levels (EILs and ESLs) have been developed for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties, whereas ESLs do not, and both are relevant to land use scenarios and apply to the top two metres of soil. EILs take into account depth of contamination, soil texture and age of the impacts, whereas ESLs account only for soil texture. For the purpose of this investigation, data will be assessed in the context of urban residential and public open space.

Asbestos Assessment Criteria apply to the assessment of known and suspected asbestos contamination in soil and address friable and non-friable forms of asbestos. The screening levels are scenario-specific likely exposure levels, are based on the proposed recreational end use setting. As such, the HSL for bonded asbestos containing materials (ACM) is 0.05% and 0.001% for asbestos fines and fibrous asbestos and no visible asbestos to be present at the surface.

7.2 *GROUNDWATER ASSESSMENT CRITERIA*

The following were adopted as Assessment Criteria for groundwater:

Groundwater Investigation Levels (GILS) are adopted from the Australian Drinking Water Guidelines and ANZECC 2000 Guidelines for Fresh and Marine Water Quality. They are not acceptance criteria they are used to trigger further consideration of groundwater contamination when GILS are exceeded.

Fresh water GILs were considered given the nearest point of groundwater discharge is likely to be the Parramatta River (fresh water system). Drinking water GILs were not considered based on the nearest registered abstraction potable bore being 1,000 m northeast from the site and the region is surrounded by a reticulated water supply.

Health screening levels (HSLs) have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via chronic inhalation exposure to petroleum vapours emanating off petroleum contaminated groundwater (vapour risk). They are intentionally conservative and based on a reasonable worst case scenario for generic soil types, contamination depth and land use settings For the purpose of this investigation, data will be assessed in the context of low to high density residential (HSL B) and recreational / public open space (HSL C).

8 INVESTIGATION RESULTS

8.1 *ENCOUNTERED GROUND CONDITIONS*

The majority of the sampling sites were concrete paved and underlain by FILL with a maximum recorded thickness of 1.2 metres. The FILL consisted of road base material (mixed sand and gravel) with occasional fragments of concrete and bitumen. The FILL was underlain by brown / orange low plasticity CLAY to a maximum confirmed thickness of 6.5 metres. Borehole logs are presented in **Appendix B**.

8.2 *PHOTOIONISATION DETECTOR RESULTS*

During intrusive drilling activities, soil samples were screened for VOCs using a PID. The VOC concentrations in the headspace of all soil samples varied between 0.0 parts per million (ppm) and 0.9 ppm (MW19-04-1.4-1.5m).

8.3 *SOIL ANALYTICAL RESULTS*

Soil analytical results were screened against the adopted guidelines. The soil analytical results certificates are presented in **Appendix D** and the results of the screening assessment are presented within **Appendix E**.

Petroleum Hydrocarbons TRH, BTEX and Naphthalene

All TRH sample results were reported at concentrations below the laboratory limit of reporting (LOR), or below the adopted guidelines.

Heavy Metals

All heavy metal sample results were reported at concentrations below the laboratory LOR, or below the adopted guidelines.

Polycyclic Aromatic Hydrocarbons

All PAH sample results were reported at concentrations below the laboratory LOR, or below the adopted guidelines.

Organochlorine Phosphates

OCP were not detected in any soil sample at concentrations in excess of the adopted guidelines.

Polychlorinated Biphenyls

PCBs were not detected in any soil sample at concentrations in excess of the adopted guidelines.

Asbestos

Asbestos was not visually observed in soil samples collected and nor was it detected through laboratory analysis.

8.4 *GROUNDWATER ANALYTICAL RESULTS*

Groundwater analytical results were screened against the adopted guidelines. The groundwater analytical results certificates are presented in **Appendix D** and the results of the screening assessment are presented within **Appendix E**.

Petroleum Hydrocarbons TRH, BTEX and Naphthalene

Petroleum hydrocarbons were not detected in any groundwater sample at concentrations in excess of the adopted assessment criteria.

Heavy Metals

Copper, nickel and zinc was reported at concentrations above GILs in the groundwater sampled from MW01, MW09, MW11, MW17, MW18, MW19, MW22, MW33 and MW38.

Polycyclic Aromatic Hydrocarbons

PAHs were not detected in any groundwater sample at concentrations in excess of the adopted guidelines.

Polychlorinated Biphenyls

PCBs were not detected in any groundwater sample at concentrations in excess of the adopted guidelines.

8.5 *QUALITY ASSURANCE / QUALITY CONTROL RESULTS*

Soil duplicate / triplicate results are within the adopted acceptance criteria of 30-50% relative percentage difference (AS4482.1) with the exception of the following:

- Lead and Nickel in duplicate pair BH20 and QAQC3.

The RPD outliers are attributed to the heterogeneity of the soil (fill) or low levels of contaminants. As a conservative approach, both concentrations were compared against the adopted guidelines.

Water duplicate / triplicate results are within the adopted acceptance criteria of 30-50% (AS4482.1).

QA / QC results comparisons are presented in **Appendix E**.

CES accepts the integrity of the analytical data.

9 CONCLUSION

With regard concentrations of COPC within soils, none were found to be in exceedance of the adopted assessment criteria.

With the exception of heavy metals, COPC were not detected in groundwater at concentrations greater than the adopted assessment criteria (in the context of both residential and public open space / recreational land use). The concentrations of metals are typical of the Sydney area and considered indicative of naturally occurring background levels and not as a result of contaminating activities having occurred on site.

The decisions rules for the assessment have been met, the site is considered suitable for the proposed commercial / residential land use which includes an area public parkland in the south. Based on the findings of this investigation, the site does not require any further environmental assessment or remediation.

The USTs onsite will be required to be decommissioned in accordance with UPSS Regulation 2014. This will include excavating and removal of the USTs followed by soil analytical testing to check for the presence of COPC associated with the storage of fuels. Removal of the USTs can be carried out in conjunction with demolition of the current site infrastructure.

10 LIMITATIONS OF THIS REPORT

This report has been prepared for use by the client who commissioned the works in accordance with the project brief and based on information provided by the client. The advice contained in this report relates only to the current project and all results, conclusions and recommendations should be reviewed by a competent person with experience in geotechnical and environmental investigations before being used for any other purpose. CES accepts no liability for use or interpretation by any person or body other than the client. This report must not be reproduced except in full and must not be amended in any way without prior approval by the client and CES.

This report does not provide a complete assessment of the environmental status of the site and is limited to the scope defined therein. It is noted that there were areas within the site that could not be assessed due to access restrictions e.g. soil and groundwater underlying the USTs and the former print press. Further assessment / validation of these features will be required as part of the forthcoming demolition and removal works. Should information become available regarding conditions at the site including previously unknown sources of contamination, CES reserves the right to review the report in the context of the additional information.

11 REFERENCES

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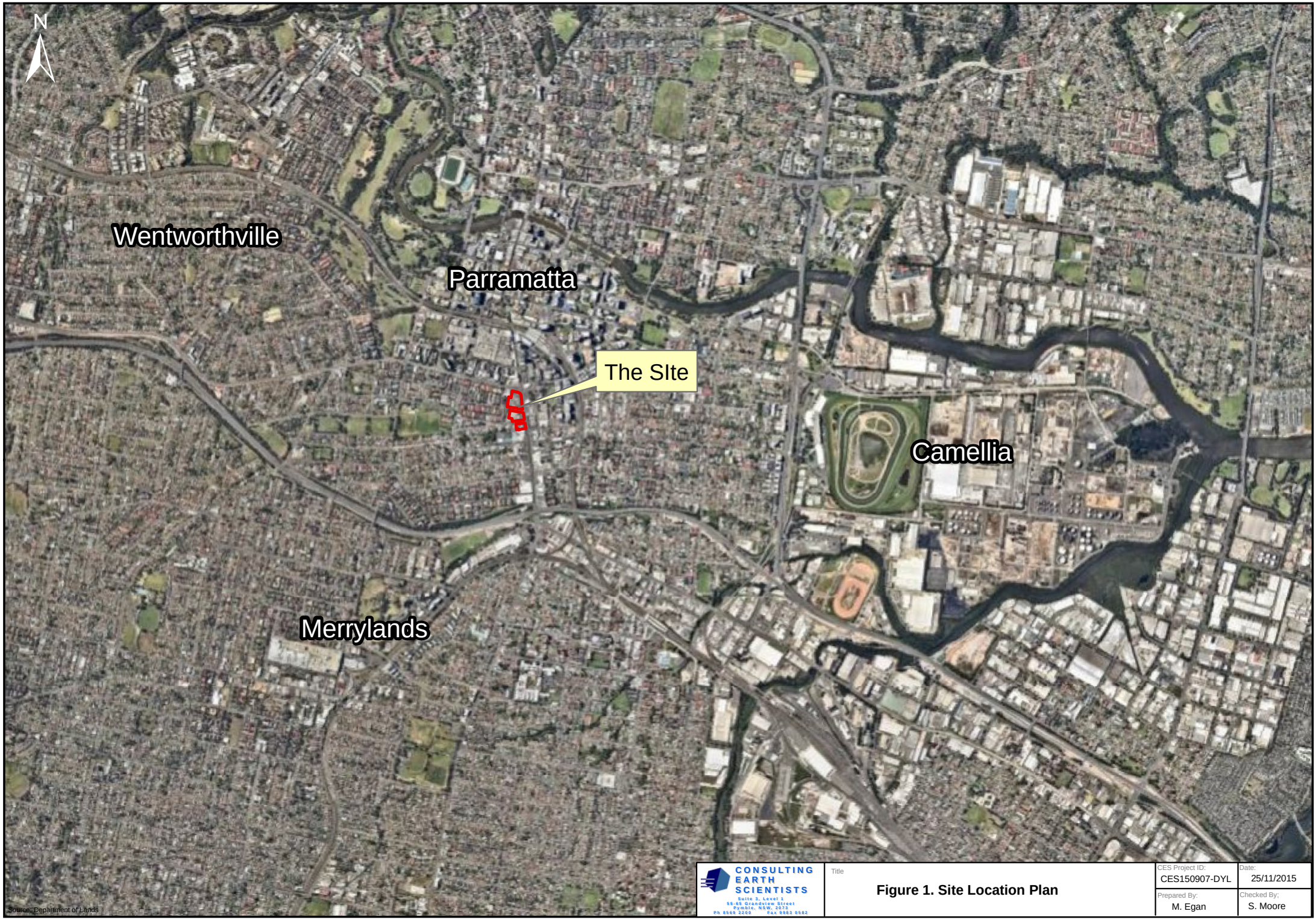
Figures



CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street
Pymble, NSW, 2073
Ph 8568 3200 Fax 9983 0582

Title

Figure 1. Site Location Plan

CES Project ID:	Date:
CES150907-DYL	25/11/2015
Prepared By: M. Egan	Checked By: S. Moore

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street
Pymble, NSW, 2073
Ph 8568 2200 Fax 9983 0582

Title: Figure 2. Site Layout Plan

CES Project ID:	Date:
CES150907-DYL	25/11/2015
Prepared By: M. Egan	Checked By: S. Moore


Legend
Boreholes (2015)
Monitoring Wells (2015)
Pre-exisiting Monitoring Wells (2011)
Site Boundary
N
BH01
MW01
BH04
BH02
BH15
BH13
BH03
BH06
MW03
BH12
MW19
MW09
BH16
MW10
BH11
BH18
MW11
BH08
BH17
BH10
BH09
Church Street
Early Street
BH20
MW17
MW18
BH22
BH21
MW24
BH23
BH25
BH24
BH26
Church Street
Landsdowne Street
BH30
BH28
BH27
MW33
MW21
BH29
MW38
BH32
0 5 10 20 30 40 50
Meters
CONSULTING EARTH SCIENTISTS
Figure 3. Borehole Location Plan
CES Project ID: CES150907-DYL
Date: 25/11/2015
Prepared By: M. Egan
Checked By: S. Moore

Appendix A

Photographic Log

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	1

Description:

Southern boundary and entry way to site 1. Early Street and Site 2 in background.

Direction Photo Taken:

South

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	2

Description:

South eastern corner of Site 1. Church Street running north to the left of the photograph.

Direction Photo Taken:

North

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	3

Description:

North eastern corner of Site 1. Church Street in the background.

Direction Photo Taken:

Southeast

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	4

Description:

Northwest corner of Site 1.

Direction Photo Taken:

South

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	5

Description:

Western boundary of Site 1 (Lot B DP304570) facing north.

Direction Photo Taken:

North

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	6

Description:

Centre of northern boundary and entry way of Site 2. Early Street running west to the right of the photograph

Direction Photo Taken:

West

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	7

Description:

Centre of Site 2 taken from the entry way on the northern boundary, facing south. Offices and showroom to the left and workshop to the right.

Direction Photo Taken:

South

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	8

Description:

North western corner of Site 2. Entry way to rooftop parking

Direction Photo Taken:

South

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	9

Description:

Northeast corner of Site 2 facing south towards Lansdowne Street and Site 3. Church Street to the right of the photograph.

Direction Photo Taken:

South

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	10

Description:

Southeast corner of Site 2 facing west. Lansdowne Street running along the left of the photograph and entry to vehicle showroom shown to the right.

Direction Photo Taken:

West

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	11

Description:

Corner of Lansdowne Street and Church Street.

Direction Photo Taken:

North

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	12

Description:

Northern boundary and entry way to Site 3.

Direction Photo Taken:

Southeast

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	13

Description:

Culvert located to rear of steel structure in Site 3.

Direction Photo Taken:

West-southwest

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	14

Description:

Site 3 largely used for storage of vehicles.

Direction Photo Taken:

West

CONSULTING EARTH SCIENTISTS

Photographic Log

Client Name:	Site Location:	Project Number:
Gateway Parramatta One Pty Ltd	57, 63 & 83 Church Street, Parramatta, New South Wales	CES150907-DYL

Date:	Plate No:
12/09/15	15

Description:

Outside the eastern boundary of Site 3.

Direction Photo Taken:

North

Appendix B
Borehole Logs

Project ID: CES150907-DLY **Easting:**

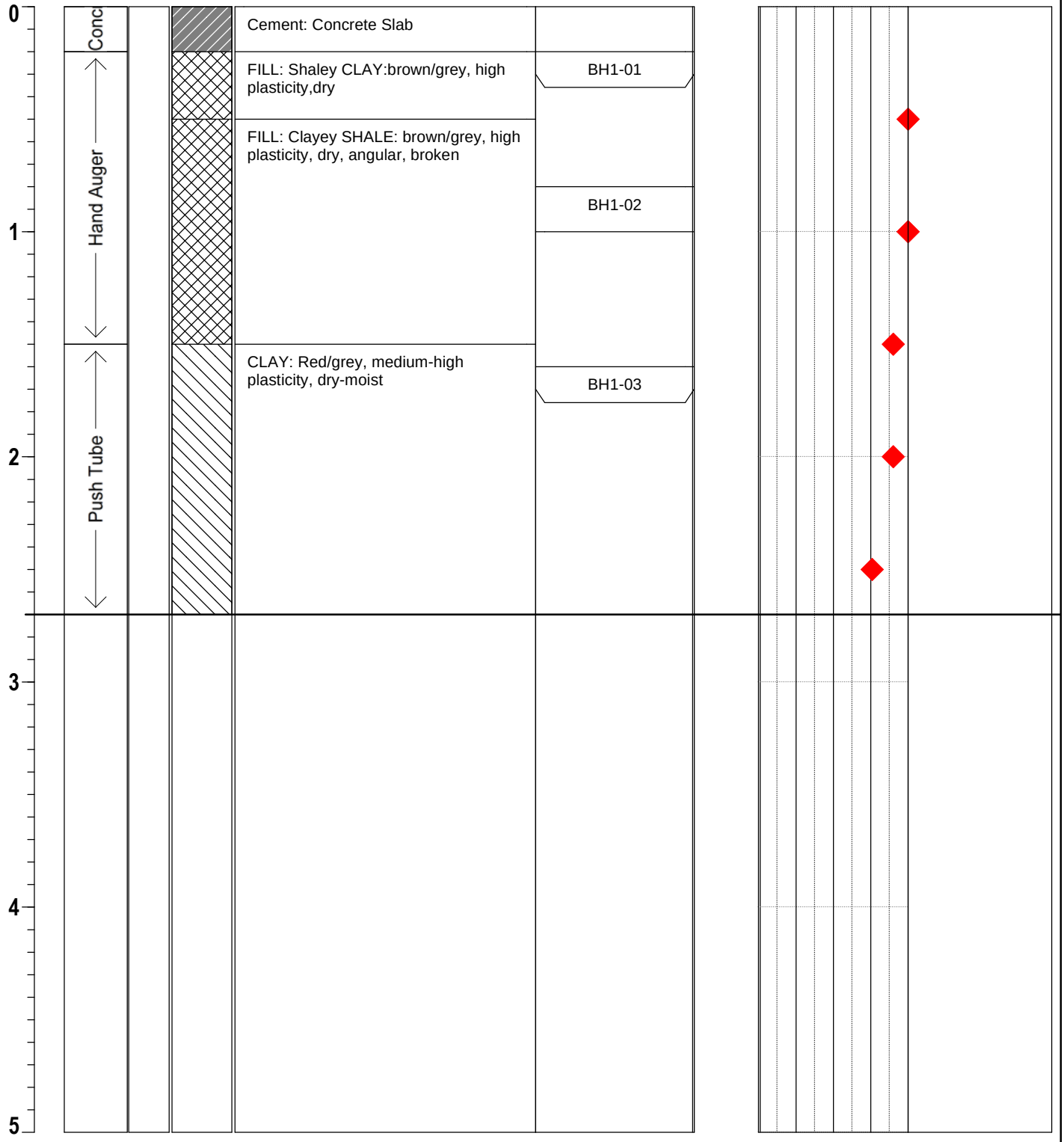
Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH1**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Conc			Cement: Concrete Slab				
	Hand Auger			FILL: Shaley CLAY:brown/grey, high plasticity,dry	BH1-01			
				FILL: Clayey SHALE: brown/grey, high plasticity, dry, angular, broken	BH1-02			
2	Push Tube			CLAY: Red/grey, medium-high plasticity, dry-moist	BH1-03			
5								



Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH2**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Con			Cement: Concrete Slab				
	Hand Auger			FILL: Roadbase: Shaley CLAY: grey/brown, high plasticity, dry	BH2-01			
				FILL: Clayey SHALE: brown/grey, high plasticity, dry, broken	BH2-02			
1	Push Tube			CLAY: Red/grey, medium plasticity, dry-moist	BH2-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH3**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Conc			Cement: Concrete slab				
	Hand Auger			FILL: Sand: light brown, fine-medium grain, high plasticity	BH3-01			
				FILL: Sandy CLAY: Brown, medium grain, medium-high plasticity, shale fragments				
1				FILL: Sand: brown, medium grain, high plasticity, shale fragments	BH3-02			
	Push Tube			CLAY: Red/grey, low plasticity				
					BH3-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

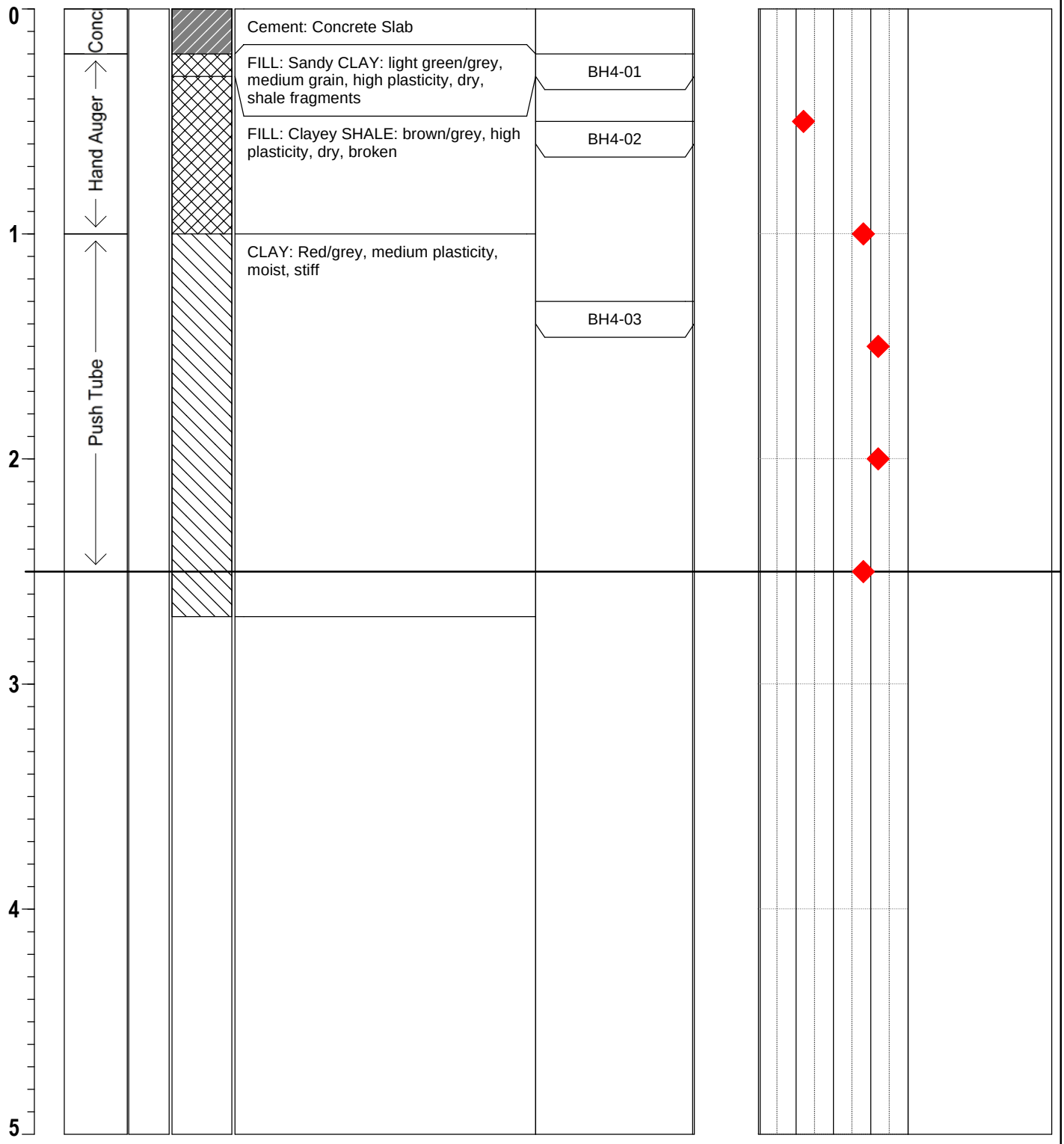
Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH4**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH6**

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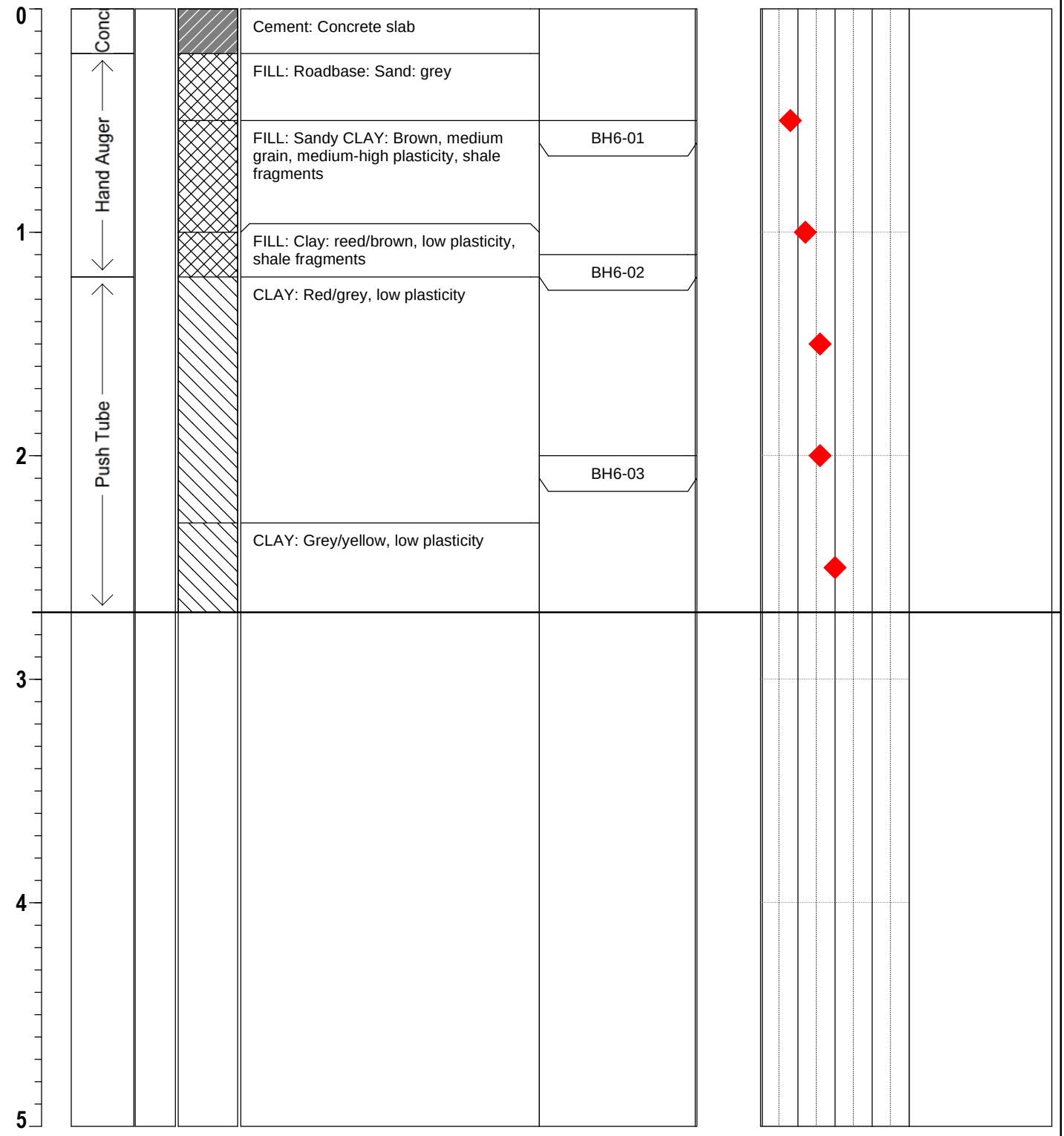
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH7**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Conc			Cement: Concrete Slab				
	Hand Auger			FILL: Roadbase: grey/brown shale	BH7-01			
				FILL: Clayey SHALE: brown/grey, high plasticity, dry, angular, broken	BH7-02			
1	Push Tube			CLAY: Orange/grey, medium plasticity, dry-moist	BH7-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

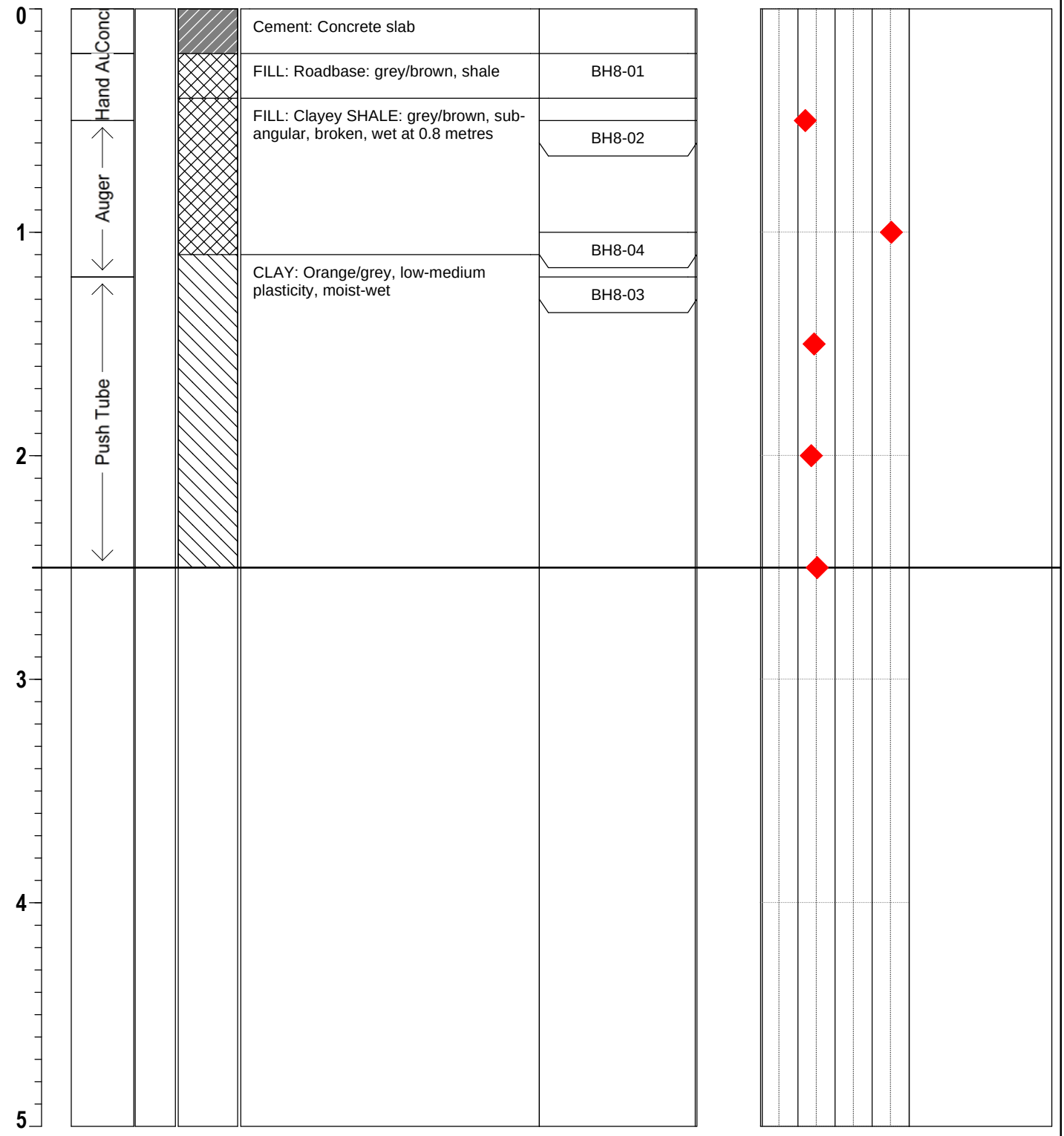
Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH8**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH9**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand AuConc			Cement: Concrete Slab				
				FILL: Clayey SHALE: brown/grey, high plasticity, dry-moist, angular, broken	BH9-01			
1	Auger				BH9-02			
				CLAY: Orange/grey, low-medium plasticity, moist-wet	BH9-03			
2	Push Tube							
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH10**

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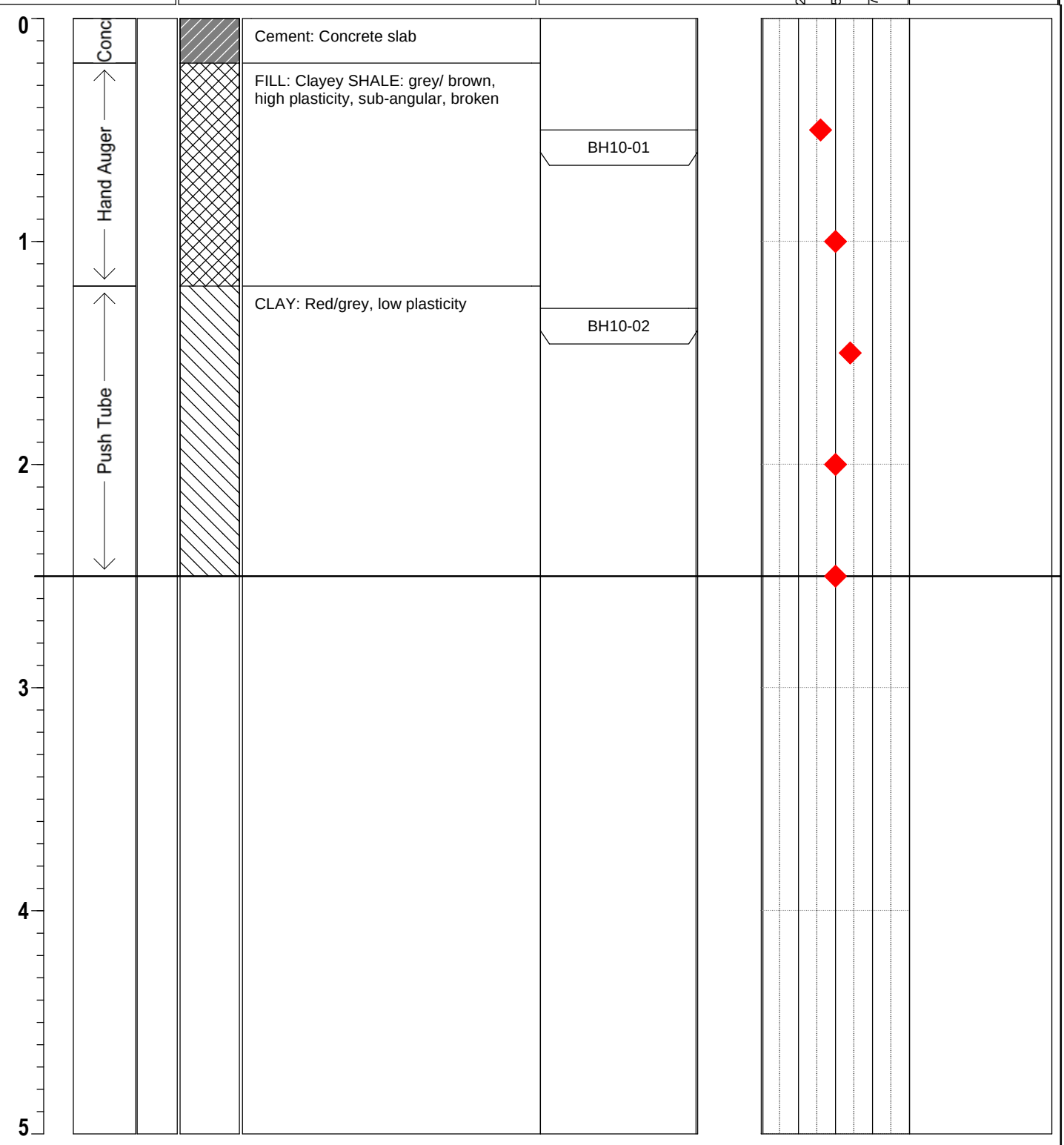
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

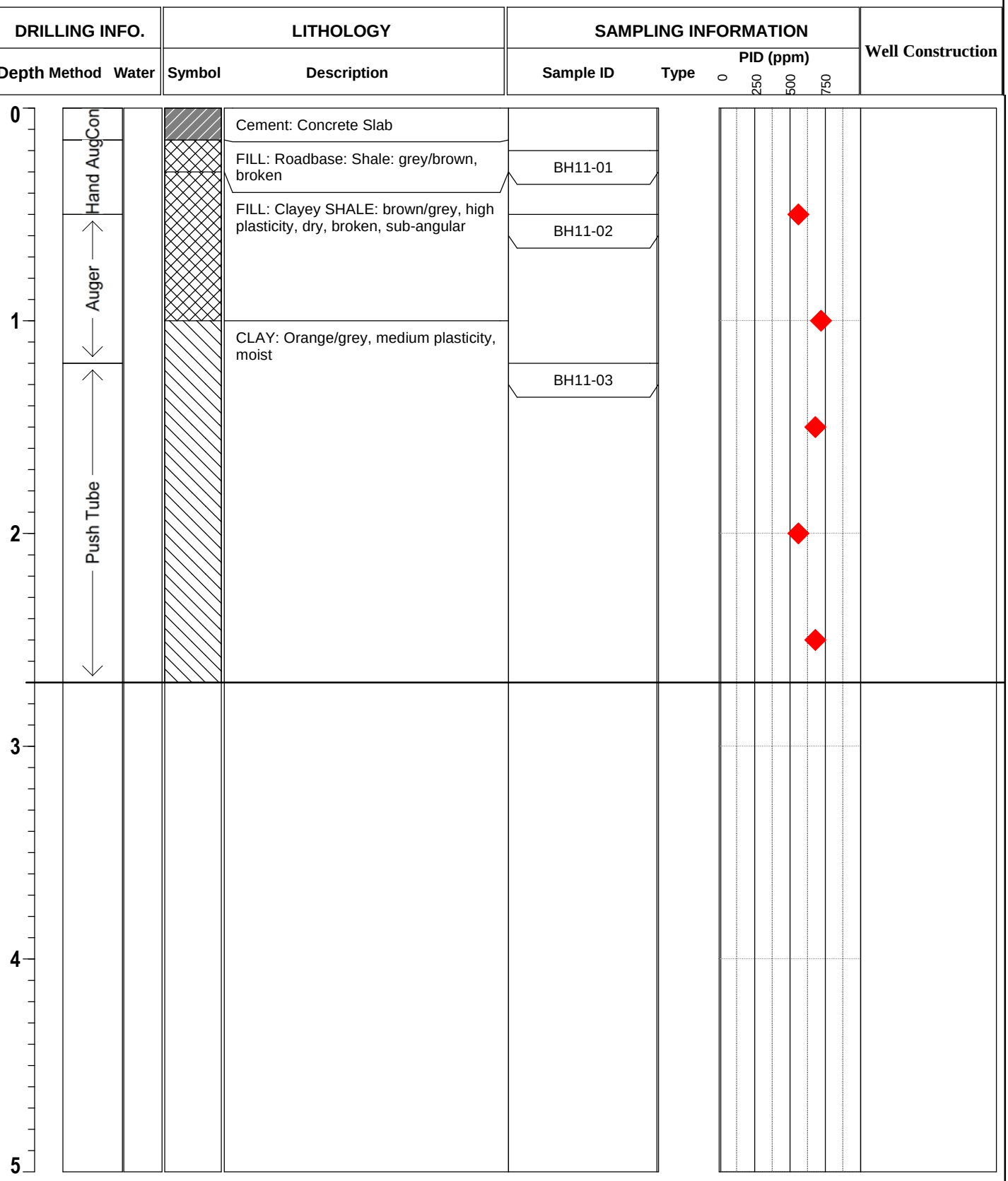
Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH11**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

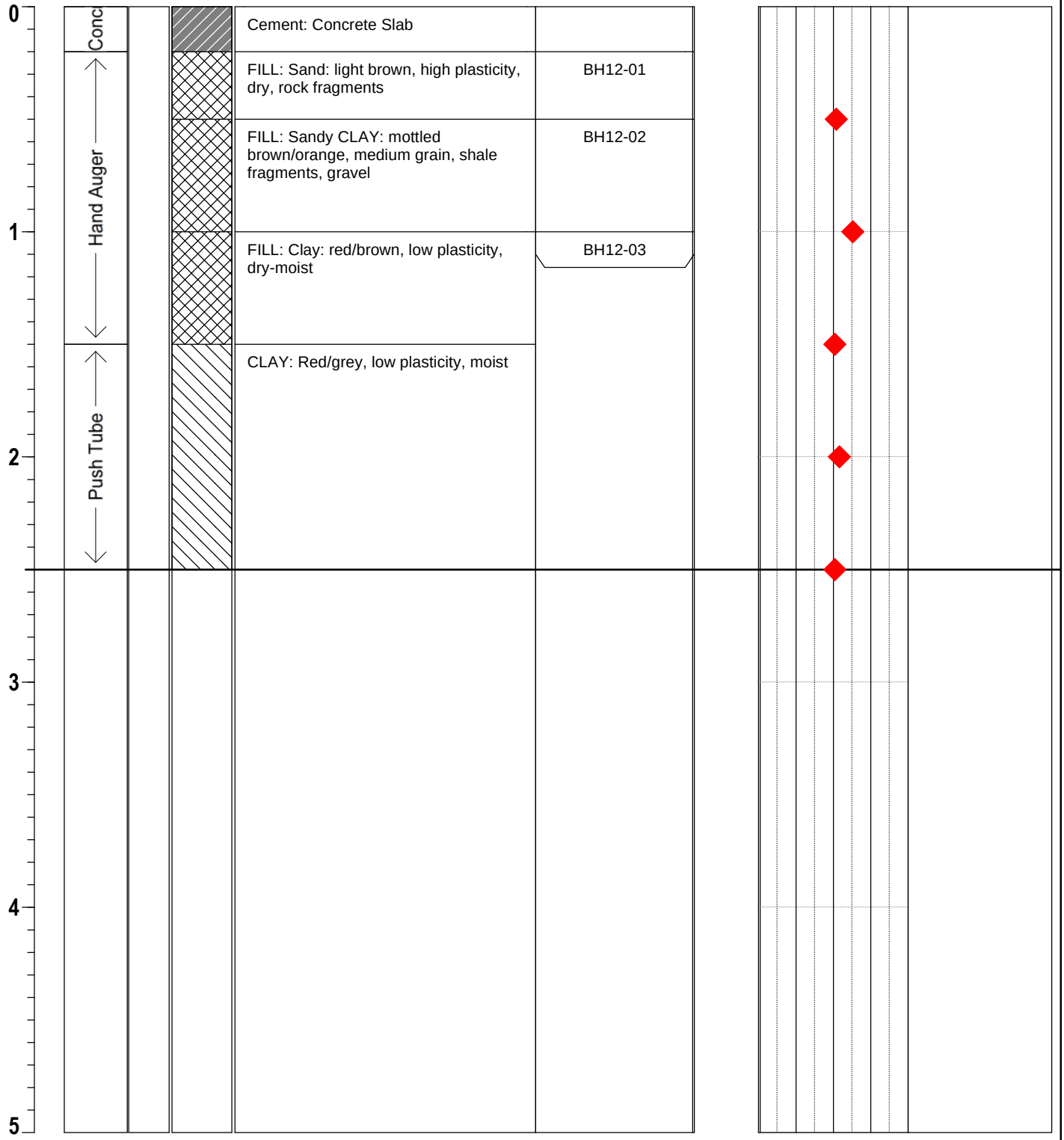
Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH12**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Conc			Cement: Concrete Slab				
	Hand Auger			FILL: Sand: light brown, high plasticity, dry, rock fragments	BH12-01			
				FILL: Sandy CLAY: mottled brown/orange, medium grain, shale fragments, gravel	BH12-02			
1				FILL: Clay: red/brown, low plasticity, dry-moist	BH12-03			
	Push Tube			CLAY: Red/grey, low plasticity, moist				
2								
3								
4								
5								



Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH13**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Drill Blas			FILL: Bitumen/roadbase				
	Hand Auger			FILL: Shaley CLAY: orange/brown, medium plasticity, dry-moist, brick fragments, fine shale fragments	BH18-01			
1				CLAY: Orange/grey, low-medium plasticity, moist, slight sulphurous odour	BH18-02			
	Push Tube							
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH15**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Conc			Cement: Concrete Slab				
	Hand Auger			FILL: Sand: light brown, high plasticity, dry, rock fragments	BH15-01			
				FILL: Sandy CLAY: mottled brown/orange, medium grain, high plasticity, shale fragments	BH15-02			
1								
	Push Tube			CLAY: Red/grey/brown, low plasticity, moist	BH15-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH16**

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Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Drill Pus			FILL: Bitumen/roadbase				
	Hand Auger			FILL: Shaley CLAY: light green/brown, high plasticity, dry, shale fragments	BH16-01			
				FILL: Sandy CLAY: orange/brown, fine grain, high plasticity, dry, brick fragments	BH16-02			
1				CLAY: Orange/grey, medium plasticity, dry-moist, organic material, slight sulphuric odour				
					BH16-03			
2	Push Tube							
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH17**

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Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand Auger			FILL: Bitumen/ roadbase				
				FILL: Shaley CLAY: light brown/grey, high plasticity,dry, shale fragments	BH17-01			
				FILL: Sandy CLAY: orange/brown, medium-high plasticity, dry, brick fragments	BH17-02			
1				CLAY: Orange/grey, medium plasticity, dry-moist				
	Push Tube				BH17-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH18**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Drill Blas			FILL: Bitumen/roadbase				
	Hand Auger			FILL: Sandy CLAY: orange/brown, high plasticity, brick fragments	BH18-01			
1				CLAY: Orange/grey, medium plasticity, dry-moist, stiff	BH18-02			
	Push Tube							
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH20**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Non-desConc			Cement: Concrete Slab				
	Solid Flight Auger			FILL: Sandy CLAY: yellow/brown, fine-medium grain, low-medium plasticity, dry-moist, soft, brick fragments	BH20-01			
1					BH20-02			
	Push Tube			CLAY: orange/grey, medium plasticity, moist, soft-firm, peat inclusions	BH20-03			
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH21**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand AugCo			Cement: Concrete slab				
				FILL: Sandy CLAY: dark brown, high plasticity, gravels, dry	BH21-01			
1				FILL: Sandy CLAY: orange/brown/ grey, medium plasticity, moist, soft	BH21-02			
2	Push Tube			CLAY: orange/brown, low-medium plasticity, moist, firm	BH21-03			
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

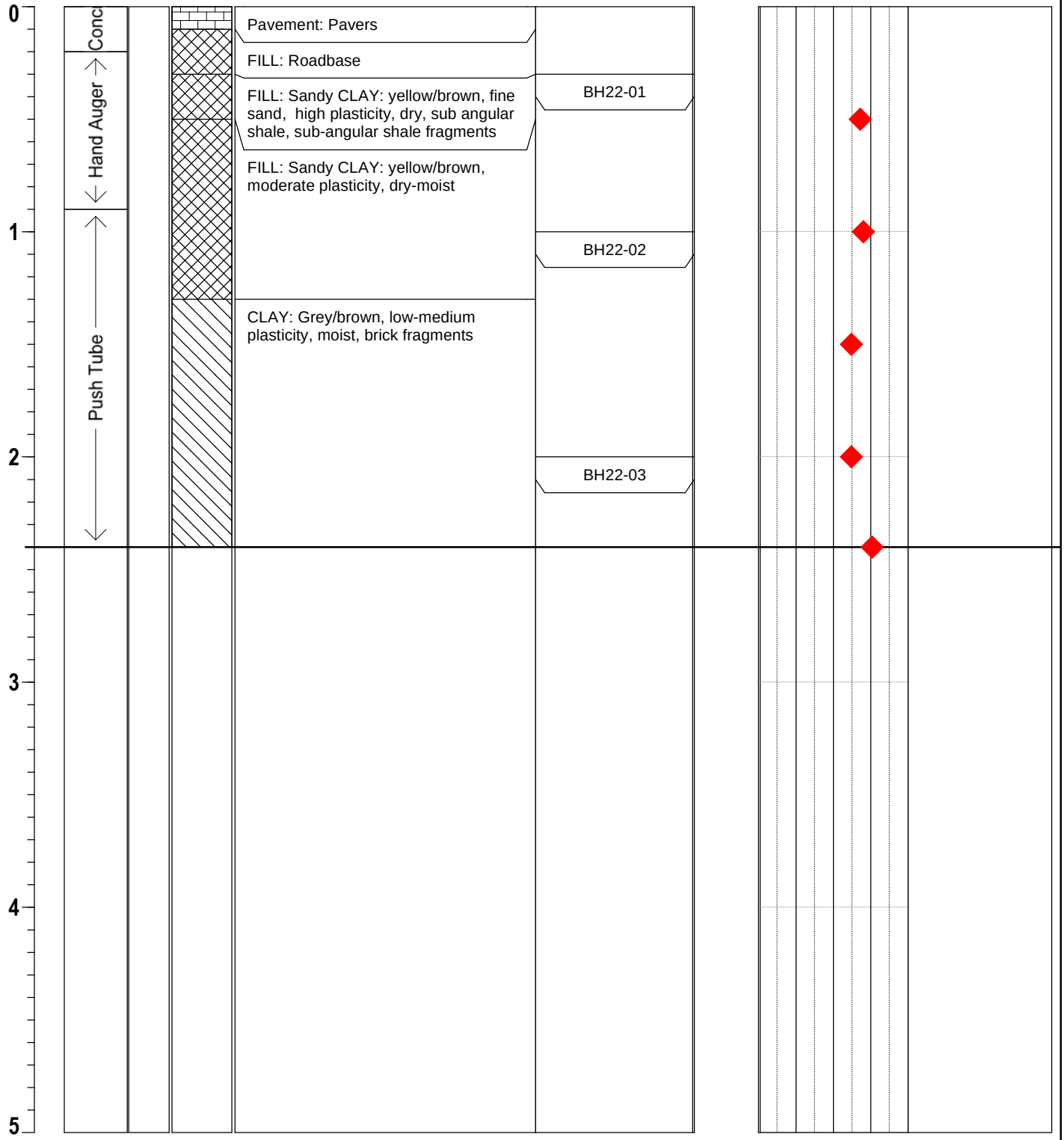
Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH22**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	



Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

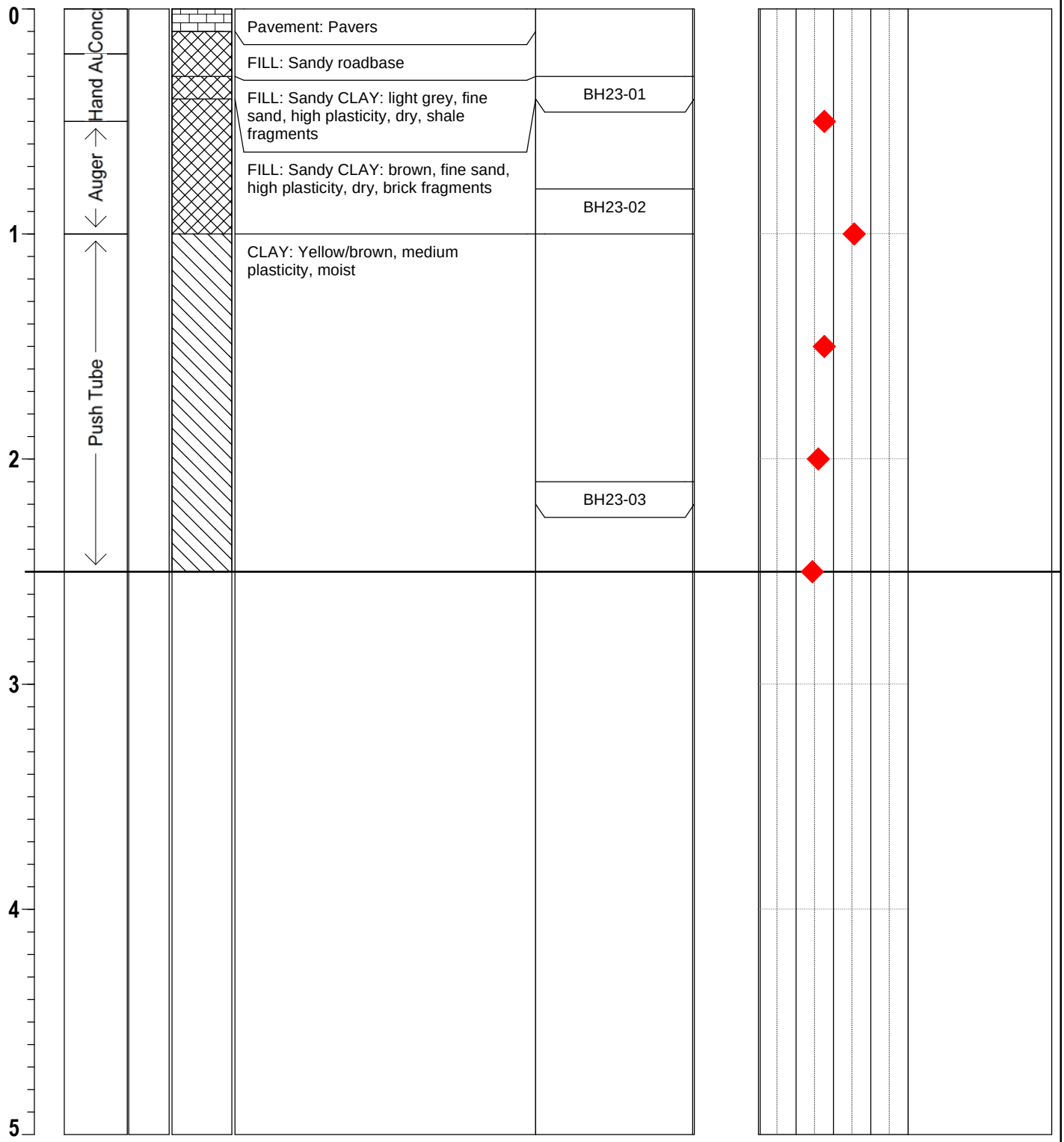
Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH23**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	



Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID:	CES150907-DLY	**Easting:**	
Project:	Phase 2 Contamination Assessment	**Northing:**	
Client:	Dyldam Developments	**Elevation:**	
Location:	Heartland Holden - Parramatta	**Environmental Log:**	**BH24**

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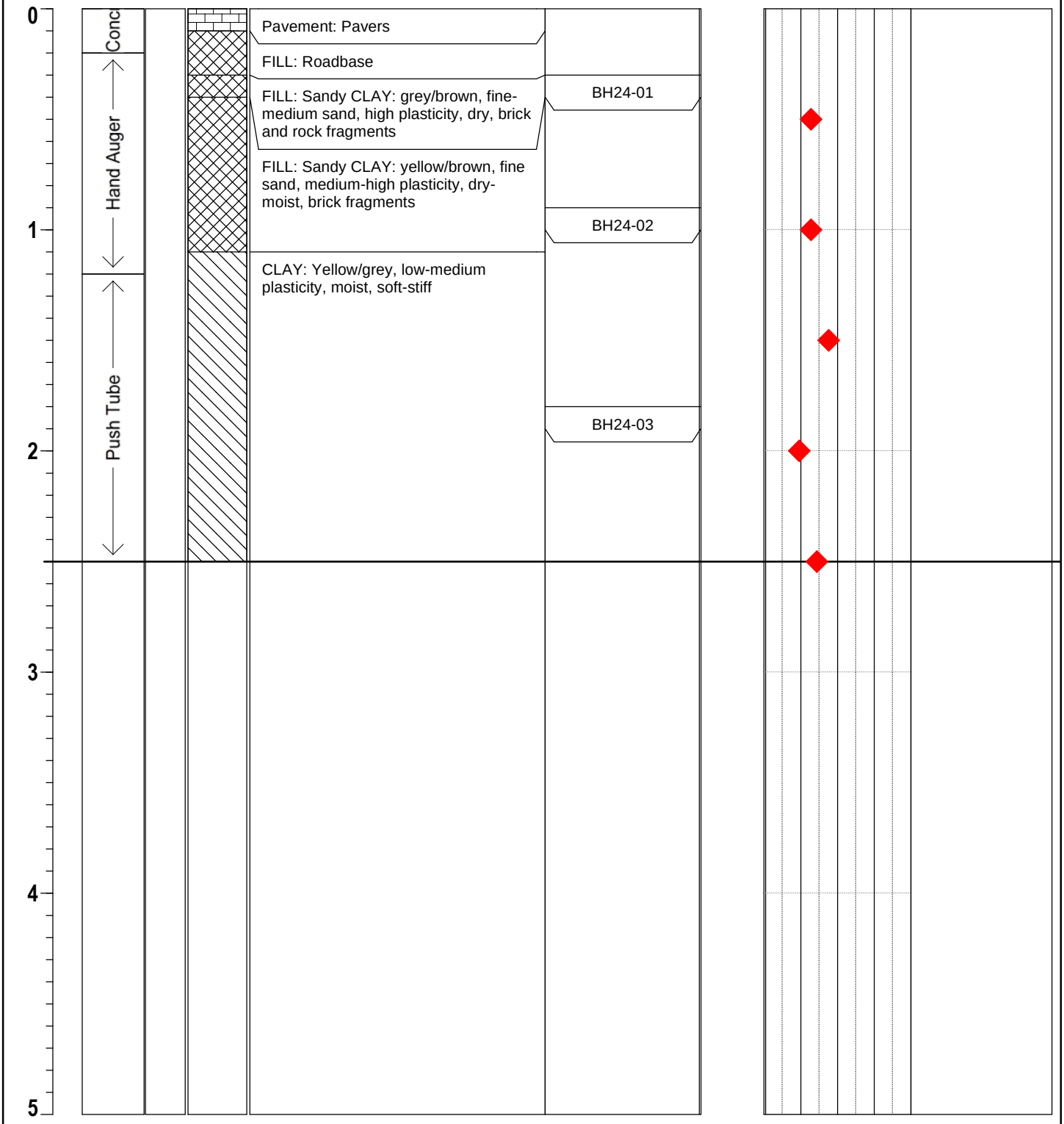
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company:	NUMAC	**Date Commenced:**	7 October 2015
Drill Model:	Geoprobe - 7720DT	**Date Completed:**	7 October 2015
Hole Diameter (mm):	N/A	**Logged/checked by:**	WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH25**

CONSULTING EARTH SCIENTISTS
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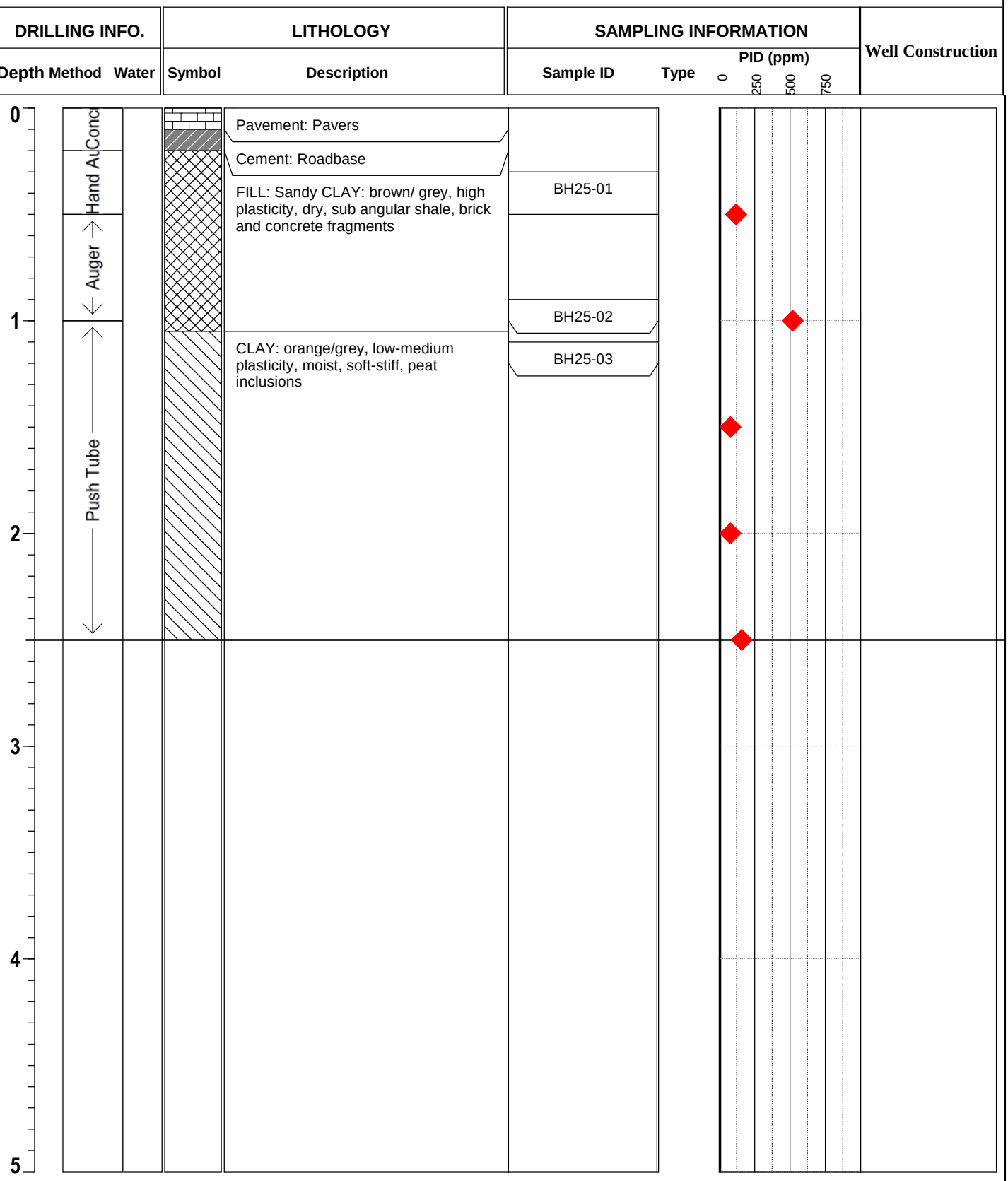
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH26**

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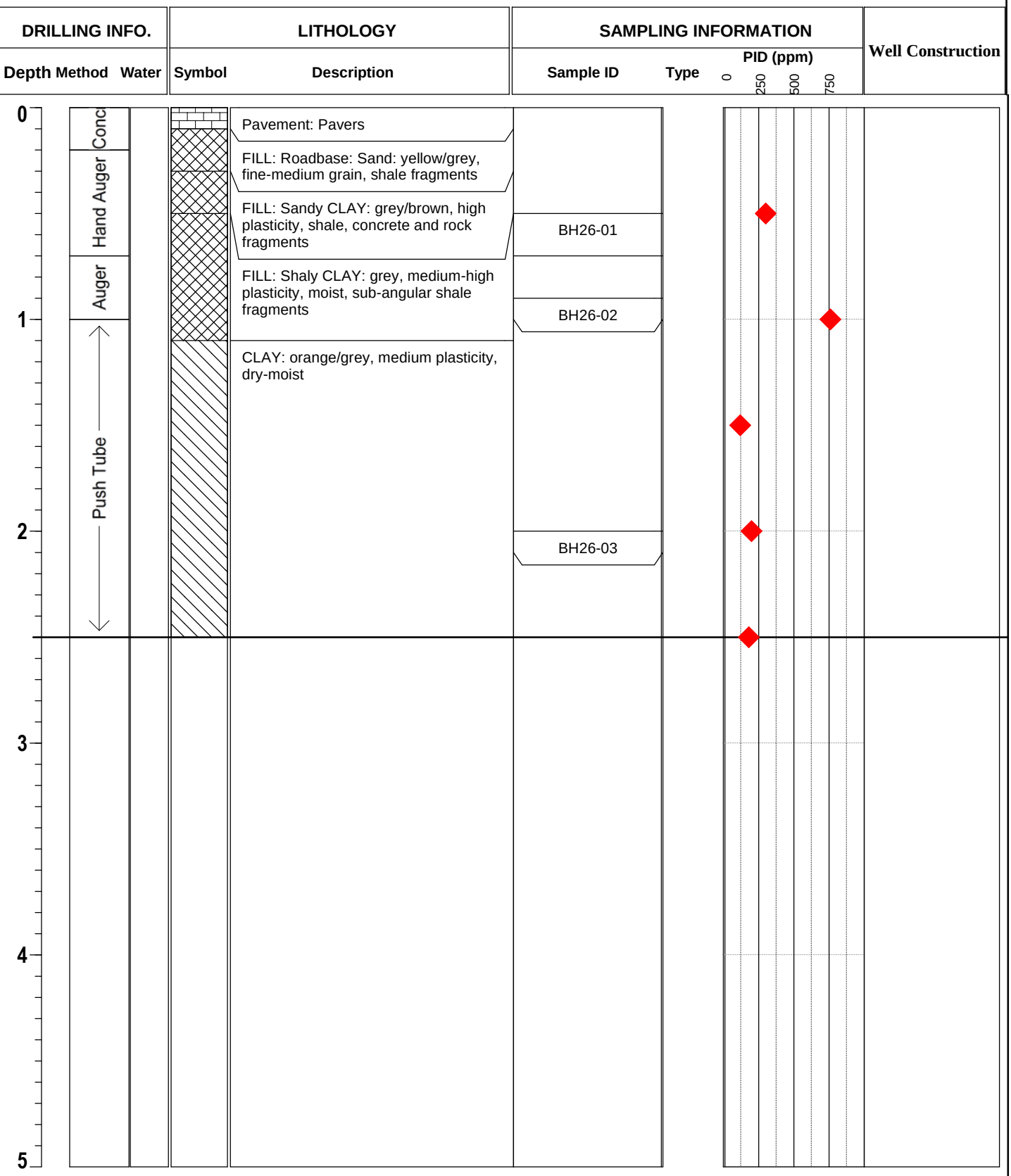
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 7 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 7 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH27**

CONSULTING EARTH SCIENTISTS
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PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand Auger			Cement: Concrete slab				
				FILL: Sandy CLAY: yellow/brown, medium-high plasticity, dry-moist	BH27-01			
				FILL: Clayey Sand: brown, low-medium plasticity, dry-moist	BH27-02			
1				CLAY: Brown/yellow, low plasticity, moist	BH27-03			
	Push Tube							
2				CLAY: Yellow/grey, low plasticity, moist	BH27-04			
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH28**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Con			Cement: Concrete slab				
	Hand Auger			FILL: Sandy CLAY: yellow/grey, dry, rock fragments	BH28-01			
				FILL: Clay: brown with black,grey & red mottles, medium plasticity, moist				
1				CLAY: Yellow/grey, low plasticity, moist	QAQC-07			
					BH28-02			
					BH28-03			
	Auger							
2								
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH30**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Co			Cement: Concrete slab				
	Hand Auger			FILL: Roadbase: Sand: grey/brown, brick fragments	BH30-01			
1				CLAY: Brown, low plasticity, dry-moist	QAQC-09			
					QAQC-08			
					BH30-02			
	Auger			CLAY: Yellow/grey, low plasticity, moist				
2					BH30-03			
3								
4								
5								

Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

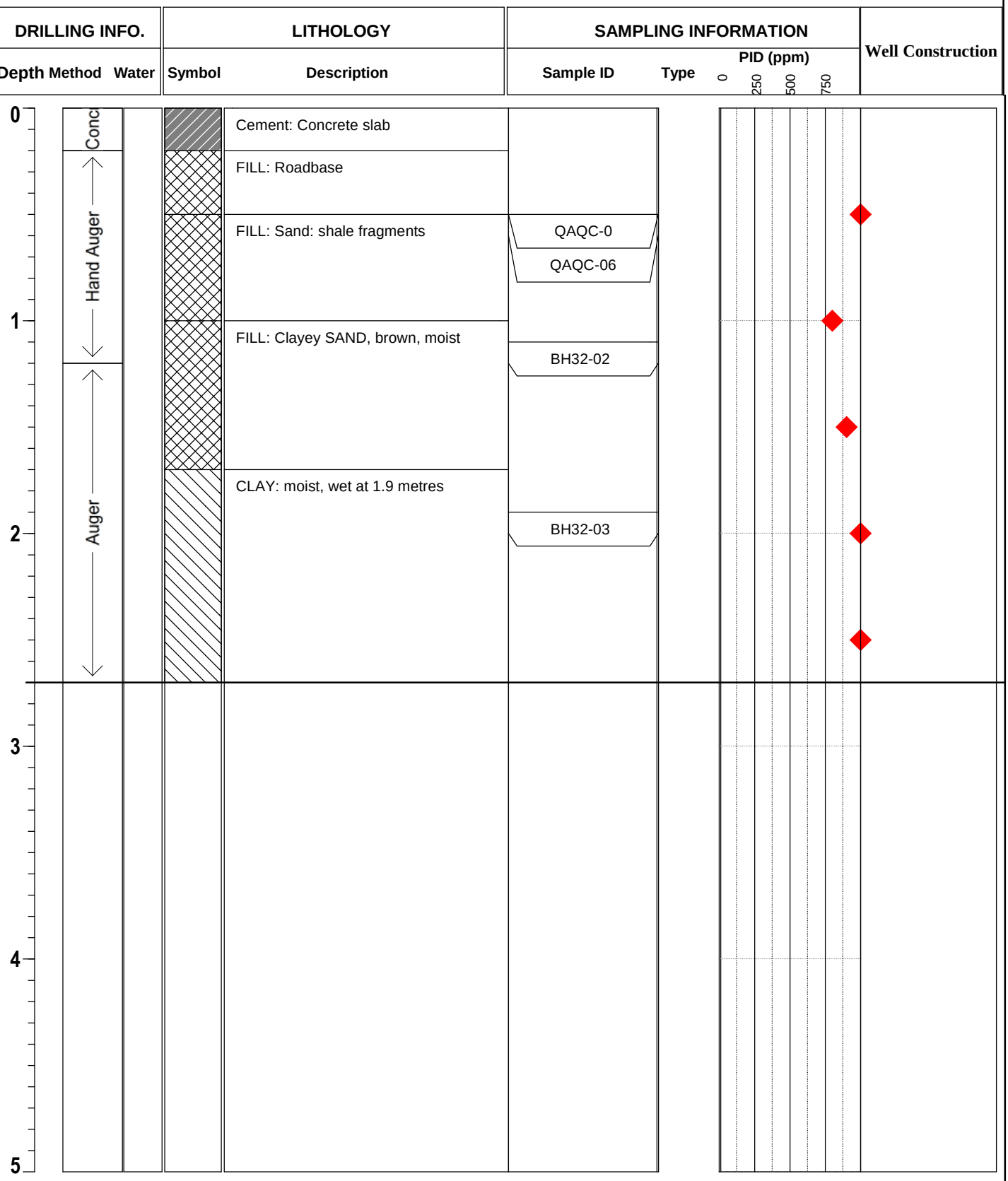
Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **BH32**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582



Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **MW19**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand Auger			FILL: Bitumen/ roadbase				
				FILL: Shaley CLAY: light grey/brown, high plasticity, dry, shale fragments	MW19-01			
				FILL: Sandy CLAY: brown, high plasticity, dry, brick fragments	MW19-02			
1				CLAY: Orange/grey, medium plasticity, dry-moist				
					MW19-03			
2	Auger			CLAY: Sandy CLAY: light brown/grey, fine grain, medium plasticity, dry-moist				
3								
4				CLAY: Shaley CLAY: brown, medium plasticity, dry-moist				
5								
6								
7								
8								

Drill Company: NUMAC **Date Commenced:** 8 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 8 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Project ID: CES150907-DLY **Easting:**

Project: Phase 2 Contamination Assessment **Northing:**

Client: Dyldam Developments **Elevation:**

Location: Heartland Holden - Parramatta **Environmental Log:** **MW21**

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55-65 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582

DRILLING INFO.			LITHOLOGY		SAMPLING INFORMATION			Well Construction
Depth	Method	Water	Symbol	Description	Sample ID	Type	PID (ppm) 0 250 500 750	
0	Hand Auger			Cement: Concrete slab	MW21-01			
				FILL: Roadbase/ sand				
				FILL: Clayey SAND: yellow/brown, low-medium plasticity, dry-moist				
1				CLAY: Brown/yellow, low plasticity	MW21-02			
				Wet at 1.2 metres	MW21-03			
2	Auger							
3								
4								
5								
6								
7								
8								

Drill Company: NUMAC **Date Commenced:** 9 October 2015

Drill Model: Geoprobe - 7720DT **Date Completed:** 9 October 2015

Hole Diameter (mm): N/A **Logged/checked by:** WS/EM

Appendix C

Groundwater Data Sheets

17cm top PVC + concrete.

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. HILLCAR **Signature(s):**	**Project Manager:** JD	141015-EM-01
BH ID:	MW22	**Sample ID:**	~~MW22~~ ~~141015-EM-01 MW22~~
Purging Date:	12/10/15 14/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO (BH22)
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	YES/NO		

EOH 1.0m

Standing Water Level (SWL):	2.47 (mBTOC) 2.51	Weather Conditions			
Well volume:	(L)	Temperature:	°C		
Water level after purging: 1.95	(mBTOC)	Clear	Partly Cloudy	Overcast	
Water level at time of sampling: 1.95	(mBTOC)				
Volume of water purged: 20 (dry)	(L) 14/10	Calm	Slight breeze	Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / Foot Valve	Windy			
Sampling equipment:	Pump / Bailer	Fine	Showers	Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
10.14 0	0	5.64	13.53 mS	7.14	1994	21.6	water turbid.
10.18 4	1.5	4.18	13.05	6.10	270	20.2	yellow/orange colour.
10.20 6	2	3.94	13.05	6.11	279	20.1	
10.22 8	2.5	3.82	13.11	6.06	258	20.1	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

Depth 7.17 - PVC
7.31 - casing

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR **Signature(s):**	**Project Manager:**	JD
BH ID:	MW18	**Sample ID:**	141015-EM-02
Purging Date:	12/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO (BH18)
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	~~YES/NO~~		

EOH -60m

Standing Water Level (SWL): 2.59 (mBTOC) 2.59 depth = 6.32 (PVC) 6.41 (casing)

Well volume: 7 (L)

Water level after purging: 1.95 (mBTOC)

Water level at time of sampling: 1.95 (mBTOC)

Volume of water purged: 25(dry) (L)

Purging equipment: Pump / micro-Purging / Bailer / Foot Valve

Sampling equipment: Pump / Bailer

Weather Conditions

Temperature: °C

Clear | Partly Cloudy | Overcast

Calm | Slight breeze | Moderate Breeze

Windy

Fine | Showers | Rain

Purging Details

	Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
11.16	0	0	2.65	870	7.13	140	21.1	water slightly turbid
11.18	2	1	2.09	853	7.26	142	20.9	slightly orange coloured.
11.20	4	1.5	1.9	857	7.13	142	20.8	
11.22	6	2	1.71	856	7.27	142	20.8	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.59m

Depth (PVC) - 6.32 m

(conc.) - 6.41 m

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GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR **Signature(s):**	**Project Manager:**	JD
BH ID:	MW17	**Sample ID:**	141015 - EM - 03
Purging Date:	9/6/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/~~NO~~	Well locked:	YES/NO
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/~~NO~~	Well ID visible:	YES/NO (BH17)
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/~~NO~~	Odours from groundwater	YES/NO
Comments:	YES/NO		

EOH - 7.0m

Standing Water Level (SWL):	1.95	(mBTOC)	Weather Conditions	Temperature:	°C
Well volume:	10	(L)			
Water level after purging: 1.95		(mBTOC)	Clear	Partly Cloudy	Overcast
Water level at time of sampling: 1.95		(mBTOC)			
Volume of water purged:	30	(L) 14/10.	Calm	Slight breeze	Moderate Breeze
Purging equipment:	(dry)	Pump / micro-Purging / Bailer / Foot Valve	Windy		
Sampling equipment:		Pump / Bailer	Fine	Showers	Rain

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
11.56	0	0	3.44	410	7.70	233	21.6	Slightly turbid
11.58	2	1.0	2.2	286	7.74	232	21.4	Slight orange colour.
12.00	4	1.5	2.1	265	7.64	244	21.4	
12.02	6	2.0	2.09	257	7.71	253	21.4	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

* Bolts missing from metal well plate.

SWL - 1.74m
depth (PVC) - 6.86m
(Conc.) - 6.93m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR **Signature(s):**	**Project Manager:**	JD
BH ID:	MW24	**Sample ID:**	141015 - EM-04
Purging Date:	12/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	YES/NO		

EOH - 7.0m

Standing Water Level (SWL): 2.59	(mBTOC)	Weather Conditions	
Well volume: 9	(L)	Temperature:	°C
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged: 12 (dry)	(L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / Foot Valve	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($uS.cm^{-1}$)	pH -	Eh mV	Temp. (°C)	Comments
12.48 0	0	2.49	-2.6	5.21	66	24.9	
12.50 2	0.5	1.45	-2.6	5.02	82	22.6	
12.52 4	1.0	1.32	-2.6	5.09	102	22.0	
12.54 6	1.5	1.23	-2.6	5.17	119	21.8	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

* QAQC - 101

SWL - 2.69m
depth (PVC) - 7.17m
(conc.) - 7.29m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR. **Signature(s):**	**Project Manager:**	JD
BH ID:	~~BH04~~ MW01	**Sample ID:**	14105-EM-05
Purging Date:	9/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	~~Monument damaged:~~	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments: EOH 6.5	YES/NO		

Weather Conditions

Standing Water Level (SWL): 2.9	(mBTOC)	Temperature:	°C
Well volume: 7	(L)		
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged: 21 (dry)	(L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
15:03 0	0	3.77	-2.4	6.12	277	26.3	turbid
15:05 2	1.0	3.06	-2.3	6.26	122	23.6	orange/brown color.
15:07 4	1.5	2.60	-2.3	6.19	118	22.7	
15:09 6	2.0	2.21	-2.3	6.05	117	22.3	
15:11 8	2.5	2.21	-2.3	6.11	116	22.4	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 3.64 m
Depth (Pvc) - 7.07 m
(Conc.) - 7.15 m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR **Signature(s):** EM	**Project Manager:**	JD
BH ID:	MW03	**Sample ID:**	141015 - EM - 06
Purging Date:	14/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/~~NO~~	Well locked:	YES/~~NO~~
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO – 1½ inch depth	Odours from groundwater	YES/NO
Comments:	~~YES/NO~~		

EOI 6.5

Standing Water Level (SWL):	1.63	(mBTOC)	Weather Conditions		
Well volume:	9	(L)	Temperature:		°C
Water level after purging:	1.95	(mBTOC)	Clear	Partly Cloudy	Overcast
Water level at time of sampling:	1.95	(mBTOC)			
Volume of water purged:	25 (dry)	(L)	Calm	Slight breeze	Moderate Breeze
Purging equipment:		Pump / micro-Purging / Bailer / Foot Valve	Windy		
Sampling equipment:		Pump / Bailer	Fine	Showers	Rain

Purging Details

	Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
15.45	0	0	5.45	-2.3	6.0	2018	25.5	slightly turbid
15.47	2	1	5.03	-2.3	6.09	723	22.5	
15.49	4	~~1.5~~	4.94	-2.3	6.31	771	21.7	
15.51	6	2.0	4.93	-2.3	6.39	~~2017~~ 2346	21.5	
15.53	8	2.5	4.96	-2.3	6.43	2017	21.5	
16.02	0	0	4.35	-2.3	6.86	121	23.3	
16.04	2		4.20	-2.3	6.87	111	23.0	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.12m
depth (PVC) - 6.85m
(corr.) - 6.96m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. HILLAR **Signature(s):**	**Project Manager:**	JD
BH ID:	~~BH09~~ MW09	**Sample ID:**	141015- EM-07
Purging Date:	09/10/15	**Sampling Date:**	14/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	~~YES/NO~~	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	YES/NO		

EOH - 5.5m

Standing Water Level (SWL):	2.15 (mBTOC)	Weather Conditions	
Well volume:	6L (L)	Temperature:	°C
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged:	20 (L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	(DY) Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($uS.cm^{-1}$)	pH -	Eh mV	Temp. (°C)	Comments
16.45 0	0	3.73	-2.3	5.43	111	22.0	
16.47 2	1.0	2.46	-2.3	5.03	116	20.1	
16.49 4	1.5	2.27	-2.3	4.91	121	19.3	
16.51 6	2.0	2.30	-2.3	4.65	125	18.9	
16.53 8	2.5	2.3	-2.3	4.48	130	18.6	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.12m
depth (PVC) - 5.57m
(conc.) - 5.66m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR. **Signature(s):**	**Project Manager:**	JD
BH ID:	MW9 (GES)	**Sample ID:**	14/10/15 - EM - 08
Purging Date:	14/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	~~YES/NO~~		

EOH - 6.50

Weather Conditions

Standing Water Level (SWL): 2.46	(mBTOC)	Temperature:		°C
Well volume: 8	(L)			
Water level after purging: 1.95	(mBTOC)	(Clear)	Partly Cloudy	Overcast
Water level at time of sampling: 1.95	(mBTOC)			
Volume of water purged: 25	(L)	Calm	(Slight breeze)	Moderate Breeze
Purging equipment: (D-T)	Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy		
Sampling equipment:	Pump / Bailer	(Fine)	Showers	Rain

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
8.24 0	0	5.52	-2.3	5.88	244	19.1	
8.26 2	0.25	4.47	-2.3	5.67	232	19.1	
8.28 4	0.5	3.89	-2.3	5.62	220	19.0	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.45m
depth (PVC) - 6.54m
(Eeme.) - 6.67m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR. **Signature(s):** EM.	**Project Manager:**	JD
BH ID:	MW11	**Sample ID:**	141015 - EM - 09
Purging Date:	9/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments: EOH -7.5	~~YES/NO~~		

Weather Conditions

Standing Water Level (SWL):	2.26 (mBTOC)	Temperature:	°C
Well volume:	10 (L)		
Water level after purging: 1.95	(mBTOC)	Clear	Partly Cloudy / Overcast
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged:	40 (L)	Calm	Slight breeze / Moderate Breeze
Purging equipment:	Pump / micro-Purging / Bailer / Foot Valve	Windy	
Sampling equipment:	Pump / Bailer	Fine	Showers / Rain

Purging Details

	Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp (°C)	Comments
9.30	0	0	2.67 ~~2.67~~	-2.4	6.29	153	27.0	
9.32	2	0.5	2.13	-2.4	6.23	150	23.2	
9.34	4	1.0	1.98	-2.4	6.24	146	21.8	
9.38	8	2	1.81	-2.4	6.26	139	21.5	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

* ~~QAQC~~ - 102
QAQC - 103

~~#~~SW - 2.17m
depth (Rec) - 7.28m
(Conc) - 7.39m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. Millar. **Signature(s):** EM.	**Project Manager:**	JD
BH ID:	MW33 (west of southern lot)	**Sample ID:**	141015 - EM - 10
Purging Date:	9/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	YES/NO
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	EOH - 6.0m		
Standing Water Level (SWL):	2.60 (mBTOC)	Weather Conditions	
Well volume:	7 (L)	Temperature:	°C
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged:	30 (dry) (L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($uS.cm^{-1}$)	pH -	Eh mV	Temp. (°C)	Comments
11.12	0	0	2.75	-2.5	6.11	127	28.5	
11.14	2	1.0	2.16	-2.4	5.96	107	22.9	
11.16	4	2.0	2.03	-2.4	5.88	109	21.6	
11.18	6	3.0	2.02	-2.4	5.90	108	21.3	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.66m
depth(PVC) - 5.93m
(cone.) - 6.05m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR. **Signature(s):**	**Project Manager:**	JD
BH ID:	MW21	**Sample ID:**	141015-EM-11
Purging Date:	9/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	~~YES/NO~~		

Standing Water Level (SWL): 1.14	(mBTOC)	Weather Conditions	
Well volume: 10	(L)	Temperature:	°C
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged: 20 (dry)	(L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO (mg.L^{-1})	EC (uS.cm^{-1})	pH -	Eh mV	Temp. (°C)	Comments
11.53 0	0	2.98	-2.4	6.23	113	30.1	turbid
11.55 2	1.5	1.69	-2.4	5.59	114	24.1	orange coloured
11.57 4	3.0	1.28	-2.4	5.38	114	22.6	
11.59 6	4.5	1.10	-2.4	5.36	112	22.2	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.75m
depth (Rec) - 5.9m
(Conc.) - 6.0m

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	E. MILLAR. **Signature(s):**	**Project Manager:**	JD
BH ID:	~~BD~~ MW38	**Sample ID:**	14/015 - EM - 12
Purging Date:	9/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	~~YES/NO~~	Monument damaged:	~~YES/NO~~
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	~~YES/NO~~		

EOH - 5.0m

Standing Water Level (SWL):	2.9	(mBTOC)	Weather Conditions	
Well volume:	4	(L)	Temperature:	°C
Water level after purging: 1.95		(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95		(mBTOC)		
Volume of water purged:	15 (dry)	(L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:		Pump / micro-~~Purging~~ / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:		Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($uS.cm^{-1}$)	pH -	Eh mV	Temp. (°C)	Comments
12.29	0	0	1.19	-2.3	6.28	91	24.7	
12.31	2	1.0	0.79	-2.3	6.49	94	22.4	
12.33	4	2.0	0.82	-2.3	6.39	96	21.0	
12.35	6	3.0	1.31	-2.3	6.40	96	20.4	

Groundwater field parameters at the end of purging to be marked "Field Measurements".

SWL - 2.88m
depth (PVC) - 5.0m
(cone) - 5.1m

Sampling –
No Access

CONSULTING EARTH SCIENTISTS

GROUNDWATER FIELD DATA SHEET

Client:	DYLDAM PROPERTY PTY LTD	**CES Project Code:**	CES150907-DYL
Project:	Gateway South Development	**Location:**	Church St, Parramatta
Sampler (s):	**Signature(s):**	**Project Manager:**	JD
BH ID:	~~MW9~~ MW10	**Sample ID:**	
Purging Date:	9/10/15	**Sampling Date:**	15/10/15

Well Status

Well damaged:	YES/NO	Well locked:	YES/NO
Cement footing damaged:	YES/NO	Cap on PVC casing:	YES/NO
Internal obstructions in casing:	YES/NO	Well ID visible:	YES/NO
Standing water, vegetation around monument:	YES/NO	Monument damaged:	YES/NO
Water between PVC and protective casing:	YES/NO	Odours from groundwater	YES/NO
Comments:	YES/NO		

EOH - 7.0m

Weather Conditions

Standing Water Level (SWL):	2.38 (mBTOC)	Temperature:	°C
Well volume:	10 (L)		
Water level after purging: 1.95	(mBTOC)	Clear / Partly Cloudy / Overcast	
Water level at time of sampling: 1.95	(mBTOC)		
Volume of water purged:	3.5 (dry) (L)	Calm / Slight breeze / Moderate Breeze	
Purging equipment:	Pump / micro-Purging / Bailer / ~~Foot Valve~~	Windy	
Sampling equipment:	Pump / Bailer	Fine / Showers / Rain	

Purging Details

Elapsed time (min)	Cumulative volume (L)	DO ($mg.L^{-1}$)	EC ($uS.cm^{-1}$)	pH -	Eh mV	Temp (°C)	Comments
		NO ACCESS TO WELL.					

Groundwater field parameters at the end of purging to be marked "Field Measurements".

Appendix D

Soil and Groundwater Certificates of Analysis

12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 135800

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Jack Dobson, Erin Millar

Sample log in details:

Your Reference:	**CES1450907-DYL**		
No. of samples:	95 soils		
Date samples received / completed instructions received	09/10/15	/	14/10/15

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:	21/10/15	/	21/10/15
Date of Preliminary Report:	Not Issued		

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

Results Approved By:

Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-1	135800-2	135800-4	135800-5	135800-7
Your Reference	----------	BH30-01	BH30-02	BH1-01	BH1-02	BH3-01
Depth	----------	0.5-0.6	1.0-1.1	0.2-0.3	0.8-1.0	0.2-0.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	78	81	85	88	85

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-10	135800-12	135800-13	135800-15	135800-16
Your Reference	----------	BH6-01	BH6-03	BH10-01	MW21-01	MW21-02
Depth	----------	0.5-0.6	2.0-2.1	0.5-0.6	0.1-0.2	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	86	78	85	86	84

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-18	135800-22	135800-23	135800-25	135800-26
Your Reference	----------	BH27-01	BH32-01	BH32-02	BH28-01	BH28-02
Depth	----------	0.2-0.5	0.5-0.6	1.1-1.2	0.2-0.3	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	81	85	79	84	78

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-29	135800-31	135800-32	135800-35	135800-38
Your Reference	----------	BH11-02	BH2-01	BH2-02	BH7-02	BH8-02
Depth	----------	1.2-1.3	0.2-0.3	0.6-0.7	0.5-0.6	0.5-0.6
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	84	79	88	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-40	135800-41	135800-42	135800-45	135800-46
Your Reference	----------	BH8-04	BH09-01	BH09-02	MW19-02	MW19-03
Depth	----------	1.0-1.1	0.4-0.5	1.0-1.1	0.5-0.6	1.4-1.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	89	88	85	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-47	135800-48	135800-50	135800-53	135800-54
Your Reference	----------	BH17-01	BH17-02	BH4-01	BH18-01	BH18-02
Depth	----------	0.3-0.4	0.5-0.6	0.2-0.3	0.5-0.6	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	83	82	86	87	78

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-56	135800-59	135800-61	135800-62	135800-63
Your Reference	----------	BH13-02	BH12-02	BH15-01	BH15-02	BH15-03
Depth	----------	0.6-0.7	0.5-1.0	0.2-0.5	0.5-0.7	1.0-1.1
Date Sampled		08/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	86	87	89	90	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-65	135800-67	135800-69	135800-71	135800-73
Your Reference	----------	BH25-02	BH26-01	BH26-03	BH24-02	BH23-01
Depth	----------	0.9-1.0	0.5-0.7	2.0-2.1	0.9-1.0	0.3-0.4
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	81	91	88	88	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-74	135800-77	135800-78	135800-80	135800-81
Your Reference	----------	BH23-02	BH22-02	BH22-03	BH21-02	BH21-03
Depth	----------	0.8-1.0	1.0-1.1	2.0-2.1	1.0-1.1	2.0-2.2
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	87	90	90	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	135800-82	135800-83	135800-85	135800-86	135800-87
Your Reference	----------	BH20-01	BH20-02	QAQC-01	QAQC-03	QAQC-04
Depth	----------	0.2-0.4	0.9-1.0	0.9-1.0	1.4-1.5	0.5-0.6
Date Sampled		07/10/2015	07/10/2015	07/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	<25	<25	<25	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25	<25	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	91	91	89	93

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	135800-89	135800-90
Your Reference	----------	BH16-02	BH16-03
Depth	----------	0.5-0.6	1.5-1.6
Date Sampled		08/10/2015	08/10/2015
Type of sample		Soil	Soil
Date extracted	-	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015
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	%	89	90

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-1	135800-2	135800-4	135800-5	135800-7
Your Reference	----------	BH30-01	BH30-02	BH1-01	BH1-02	BH3-01
Depth	----------	0.5-0.6	1.0-1.1	0.2-0.3	0.8-1.0	0.2-0.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	91	90	93	94	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-10	135800-12	135800-13	135800-15	135800-16
Your Reference	----------	BH6-01	BH6-03	BH10-01	MW21-01	MW21-02
Depth	----------	0.5-0.6	2.0-2.1	0.5-0.6	0.1-0.2	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	92	92	94	94	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-18	135800-22	135800-23	135800-25	135800-26
Your Reference	----------	BH27-01	BH32-01	BH32-02	BH28-01	BH28-02
Depth	----------	0.2-0.5	0.5-0.6	1.1-1.2	0.2-0.3	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	91	93	90	94	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-29	135800-31	135800-32	135800-35	135800-38
Your Reference	----------	BH11-02	BH2-01	BH2-02	BH7-02	BH8-02
Depth	----------	1.2-1.3	0.2-0.3	0.6-0.7	0.5-0.6	0.5-0.6
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	93	93	92	90	90

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-40	135800-41	135800-42	135800-45	135800-46
Your Reference	----------	BH8-04	BH09-01	BH09-02	MW19-02	MW19-03
Depth	----------	1.0-1.1	0.4-0.5	1.0-1.1	0.5-0.6	1.4-1.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	92	92	91	94	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-47	135800-48	135800-50	135800-53	135800-54
Your Reference	----------	BH17-01	BH17-02	BH4-01	BH18-01	BH18-02
Depth	----------	0.3-0.4	0.5-0.6	0.2-0.3	0.5-0.6	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	110	<100	<100	<100	<100
Surrogate o-Terphenyl	%	92	91	88	89	92

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-56	135800-59	135800-61	135800-62	135800-63
Your Reference	----------	BH13-02	BH12-02	BH15-01	BH15-02	BH15-03
Depth	----------	0.6-0.7	0.5-1.0	0.2-0.5	0.5-0.7	1.0-1.1
Date Sampled		08/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	90	91	94	92	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-65	135800-67	135800-69	135800-71	135800-73
Your Reference	----------	BH25-02	BH26-01	BH26-03	BH24-02	BH23-01
Depth	----------	0.9-1.0	0.5-0.7	2.0-2.1	0.9-1.0	0.3-0.4
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	92	93	88	88	91

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-74	135800-77	135800-78	135800-80	135800-81
Your Reference	----------	BH23-02	BH22-02	BH22-03	BH21-02	BH21-03
Depth	----------	0.8-1.0	1.0-1.1	2.0-2.1	1.0-1.1	2.0-2.2
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	<100	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	89	85	88	89	88

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	135800-82	135800-83	135800-85	135800-86	135800-87
Your Reference	----------	BH20-01	BH20-02	QAQC-01	QAQC-03	QAQC-04
Depth	----------	0.2-0.4	0.9-1.0	0.9-1.0	1.4-1.5	0.5-0.6
Date Sampled		07/10/2015	07/10/2015	07/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100	200	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100	290	<100	<100	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100	400	<100	<100	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	310	<100	<100	<100
Surrogate o-Terphenyl	%	90	94	87	89	90

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	135800-89	135800-90
Your Reference	----------	BH16-02	BH16-03
Depth	----------	0.5-0.6	1.5-1.6
Date Sampled		08/10/2015	08/10/2015
Type of sample		Soil	Soil
Date extracted	-	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015
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	%	92	89

PAHs in Soil						
Our Reference:	UNITS	135800-1	135800-2	135800-4	135800-5	135800-7
Your Reference	----------	BH30-01	BH30-02	BH1-01	BH1-02	BH3-01
Depth	----------	0.5-0.6	1.0-1.1	0.2-0.3	0.8-1.0	0.2-0.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	1.3	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	94	92	96	96

PAHs in Soil						
Our Reference:	UNITS	135800-10	135800-12	135800-13	135800-15	135800-16
Your Reference	----------	BH6-01	BH6-03	BH10-01	MW21-01	MW21-02
Depth	----------	0.5-0.6	2.0-2.1	0.5-0.6	0.1-0.2	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	95	94	96	91	94

PAHs in Soil						
Our Reference:	UNITS	135800-18	135800-22	135800-23	135800-25	135800-26
Your Reference	----------	BH27-01	BH32-01	BH32-02	BH28-01	BH28-02
Depth	----------	0.2-0.5	0.5-0.6	1.1-1.2	0.2-0.3	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Naphthalene	mg/kg	<0.1	<0.1	0.3	<0.1	<0.1
Acenaphthylene	mg/kg	0.5	<0.1	0.5	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.4	<0.1	0.5	<0.1	<0.1
Phenanthrene	mg/kg	4.8	<0.1	2.8	0.2	<0.1
Anthracene	mg/kg	1.3	<0.1	0.9	<0.1	<0.1
Fluoranthene	mg/kg	8.0	<0.1	2.6	0.4	<0.1
Pyrene	mg/kg	7.3	<0.1	2.3	0.5	<0.1
Benzo(a)anthracene	mg/kg	3.0	<0.1	1.1	0.2	<0.1
Chrysene	mg/kg	3.3	<0.1	1.1	0.3	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	4.9	<0.2	2	0.5	<0.2
Benzo(a)pyrene	mg/kg	3.1	<0.05	1.1	0.3	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	1.8	<0.1	0.6	0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.3	<0.1	0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	1.6	<0.1	0.5	0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	4.4	<0.5	1.6	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	4.4	<0.5	1.6	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	4.4	<0.5	1.6	<0.5	<0.5
Total Positive PAHs	mg/kg	40	NIL (+)VE	16	2.8	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	95	94	96	95

PAHs in Soil						
Our Reference:	UNITS	135800-29	135800-31	135800-32	135800-35	135800-38
Your Reference	----------	BH11-02	BH2-01	BH2-02	BH7-02	BH8-02
Depth	----------	1.2-1.3	0.2-0.3	0.6-0.7	0.5-0.6	0.5-0.6
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97	94	94	93	92

PAHs in Soil						
Our Reference:	UNITS	135800-40	135800-41	135800-42	135800-45	135800-46
Your Reference	----------	BH8-04	BH09-01	BH09-02	MW19-02	MW19-03
Depth	----------	1.0-1.1	0.4-0.5	1.0-1.1	0.5-0.6	1.4-1.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	92	91	94	99

PAHs in Soil						
Our Reference:	UNITS	135800-47	135800-48	135800-50	135800-53	135800-54
Your Reference	----------	BH17-01	BH17-02	BH4-01	BH18-01	BH18-02
Depth	----------	0.3-0.4	0.5-0.6	0.2-0.3	0.5-0.6	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	16/10/2015	16/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	1.6	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	95	100	95	96	100

PAHs in Soil						
Our Reference:	UNITS	135800-56	135800-59	135800-61	135800-62	135800-63
Your Reference	----------	BH13-02	BH12-02	BH15-01	BH15-02	BH15-03
Depth	----------	0.6-0.7	0.5-1.0	0.2-0.5	0.5-0.7	1.0-1.1
Date Sampled		08/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	1.1	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	99	99	99	97	98

PAHs in Soil						
Our Reference:	UNITS	135800-65	135800-67	135800-69	135800-71	135800-73
Your Reference	----------	BH25-02	BH26-01	BH26-03	BH24-02	BH23-01
Depth	----------	0.9-1.0	0.5-0.7	2.0-2.1	0.9-1.0	0.3-0.4
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.2	0.3	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.2	0.4	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	2.6	3.3	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.6	0.9	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	3.7	5.6	<0.1	<0.1	<0.1
Pyrene	mg/kg	3.6	5.4	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	1.7	2.5	<0.1	<0.1	<0.1
Chrysene	mg/kg	2.1	2.9	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	3.0	4.4	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	2.0	3.0	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	1.1	1.5	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.3	0.4	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	1.2	1.7	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	2.9	4.3	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	2.9	4.3	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	2.9	4.3	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	22	33	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92	96	98	99	96

PAHs in Soil						
Our Reference:	UNITS	135800-74	135800-77	135800-78	135800-80	135800-81
Your Reference	----------	BH23-02	BH22-02	BH22-03	BH21-02	BH21-03
Depth	----------	0.8-1.0	1.0-1.1	2.0-2.1	1.0-1.1	2.0-2.2
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.3	0.2	<0.1	0.6	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Fluoranthene	mg/kg	0.5	0.5	<0.1	1.6	<0.1
Pyrene	mg/kg	0.5	0.5	<0.1	1.5	<0.1
Benzo(a)anthracene	mg/kg	0.2	0.3	<0.1	0.8	<0.1
Chrysene	mg/kg	0.3	0.3	<0.1	1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.4	0.5	<0.2	2	<0.2
Benzo(a)pyrene	mg/kg	0.2	0.3	<0.05	0.91	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.1	<0.1	0.5	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	0.2	<0.1	0.5	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	1.2	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	1.3	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	1.3	<0.5
Total Positive PAHs	mg/kg	2.6	2.9	NIL (+)VE	9.4	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98	96	97	98	96

PAHs in Soil						
Our Reference:	UNITS	135800-82	135800-83	135800-85	135800-86	135800-87
Your Reference	----------	BH20-01	BH20-02	QAQC-01	QAQC-03	QAQC-04
Depth	----------	0.2-0.4	0.9-1.0	0.9-1.0	1.4-1.5	0.5-0.6
Date Sampled		07/10/2015	07/10/2015	07/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	mg/kg	<0.1	0.3	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	0.8	0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	0.5	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.3	4.7	1.2	<0.1	<0.1
Anthracene	mg/kg	0.1	1.3	0.4	<0.1	<0.1
Fluoranthene	mg/kg	0.7	11	2.5	<0.1	<0.1
Pyrene	mg/kg	0.7	11	2.5	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.3	6.7	1.3	<0.1	<0.1
Chrysene	mg/kg	0.5	6.1	1.5	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.7	9.7	2.3	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.4	6.3	1.5	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	2.6	0.7	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	0.9	0.2	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	2.7	0.9	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	0.5	9.2	2.1	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	0.5	9.2	2.1	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.6	9.2	2.1	<0.5	<0.5
Total Positive PAHs	mg/kg	4.1	65	15	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	96	98	95	101	95

PAHs in Soil			
Our Reference:	UNITS	135800-89	135800-90
Your Reference	----------	BH16-02	BH16-03
Depth	----------	0.5-0.6	1.5-1.6
Date Sampled		08/10/2015	08/10/2015
Type of sample		Soil	Soil
Date extracted	-	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015
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,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<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 calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98	98

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-1	135800-2	135800-4	135800-5	135800-7
Your Reference	----------	BH30-01	BH30-02	BH1-01	BH1-02	BH3-01
Depth	----------	0.5-0.6	1.0-1.1	0.2-0.3	0.8-1.0	0.2-0.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	9	5	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	10	9	17	6
Copper	mg/kg	12	110	57	46	68
Lead	mg/kg	790	48	2	19	2
Mercury	mg/kg	<0.1	0.3	<0.1	<0.1	<0.1
Nickel	mg/kg	9	5	120	33	110
Zinc	mg/kg	97	34	37	48	37

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-10	135800-12	135800-13	135800-15	135800-16
Your Reference	----------	BH6-01	BH6-03	BH10-01	MW21-01	MW21-02
Depth	----------	0.5-0.6	2.0-2.1	0.5-0.6	0.1-0.2	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	<4	<4	<4	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	6	12	90	13
Copper	mg/kg	52	6	49	33	17
Lead	mg/kg	19	4	13	16	22
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Nickel	mg/kg	40	<1	38	81	8
Zinc	mg/kg	48	2	38	55	32

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-18	135800-22	135800-23	135800-25	135800-26
Your Reference	----------	BH27-01	BH32-01	BH32-02	BH28-01	BH28-02
Depth	----------	0.2-0.5	0.5-0.6	1.1-1.2	0.2-0.3	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	<4	8	8	16	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.6	<0.4
Chromium	mg/kg	7	8	10	65	9
Copper	mg/kg	9	21	13	44	31
Lead	mg/kg	55	27	31	130	140
Mercury	mg/kg	0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	5	6	6	54	3
Zinc	mg/kg	34	49	51	84	18

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-29	135800-31	135800-32	135800-35	135800-38
Your Reference	----------	BH11-02	BH2-01	BH2-02	BH7-02	BH8-02
Depth	----------	1.2-1.3	0.2-0.3	0.6-0.7	0.5-0.6	0.5-0.6
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	6	<4	6	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	6	23	15	14
Copper	mg/kg	12	52	29	67	43
Lead	mg/kg	12	2	21	8	14
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	120	18	67	41
Zinc	mg/kg	6	37	31	45	47

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-40	135800-41	135800-42	135800-45	135800-46
Your Reference	----------	BH8-04	BH09-01	BH09-02	MW19-02	MW19-03
Depth	----------	1.0-1.1	0.4-0.5	1.0-1.1	0.5-0.6	1.4-1.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	6	<4	<4	7	8
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	19	14	10	22	17
Copper	mg/kg	20	64	12	16	16
Lead	mg/kg	13	5	12	16	16
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	100	9	5	1
Zinc	mg/kg	18	41	17	21	4

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-47	135800-48	135800-50	135800-53	135800-54
Your Reference	----------	BH17-01	BH17-02	BH4-01	BH18-01	BH18-02
Depth	----------	0.3-0.4	0.5-0.6	0.2-0.3	0.5-0.6	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	<4	9	<4	5	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	28	11	13	26
Copper	mg/kg	48	16	57	15	15
Lead	mg/kg	10	14	3	38	19
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	120	5	120	25	4
Zinc	mg/kg	42	11	40	150	14

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-56	135800-59	135800-61	135800-62	135800-63
Your Reference	----------	BH13-02	BH12-02	BH15-01	BH15-02	BH15-03
Depth	----------	0.6-0.7	0.5-1.0	0.2-0.5	0.5-0.7	1.0-1.1
Date Sampled		08/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	10	5	<4	4	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	15	8	8	19
Copper	mg/kg	23	1	46	5	15
Lead	mg/kg	41	10	2	34	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	6	2	92	5	1
Zinc	mg/kg	120	8	34	53	4

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-65	135800-67	135800-69	135800-71	135800-73
Your Reference	----------	BH25-02	BH26-01	BH26-03	BH24-02	BH23-01
Depth	----------	0.9-1.0	0.5-0.7	2.0-2.1	0.9-1.0	0.3-0.4
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	<4	4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	18	8	10	8
Copper	mg/kg	19	45	11	6	9
Lead	mg/kg	45	84	12	9	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	14	38	4	2	9
Zinc	mg/kg	37	87	9	4	19

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-74	135800-77	135800-78	135800-80	135800-81
Your Reference	----------	BH23-02	BH22-02	BH22-03	BH21-02	BH21-03
Depth	----------	0.8-1.0	1.0-1.1	2.0-2.1	1.0-1.1	2.0-2.2
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	6	19	<4	7	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	6	9	18	15
Copper	mg/kg	24	19	5	40	14
Lead	mg/kg	42	52	8	130	11
Mercury	mg/kg	<0.1	0.2	<0.1	0.1	<0.1
Nickel	mg/kg	16	3	3	9	4
Zinc	mg/kg	42	69	3	51	7

Acid Extractable metals in soil						
Our Reference:	UNITS	135800-82	135800-83	135800-85	135800-86	135800-87
Your Reference	----------	BH20-01	BH20-02	QAQC-01	QAQC-03	QAQC-04
Depth	----------	0.2-0.4	0.9-1.0	0.9-1.0	1.4-1.5	0.5-0.6
Date Sampled		07/10/2015	07/10/2015	07/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	6	5	<4	8	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	28	33	18	19	14
Copper	mg/kg	27	19	26	15	41
Lead	mg/kg	150	39	46	16	11
Mercury	mg/kg	0.2	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	27	24	17	2	50
Zinc	mg/kg	61	41	48	7	44

Acid Extractable metals in soil					
Our Reference:	UNITS	135800-89	135800-90	135800-96	135800-97
Your Reference	----------	BH16-02	BH16-03	BH21-02 - TRIPLICATE	BH27-01 - TRIPLICATE
Depth	----------	0.5-0.6	1.5-1.6	1.0-1.1	1.1-
Date Sampled		08/10/2015	08/10/2015	07/10/2015	9/10/2015
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Arsenic	mg/kg	8	<4	8	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	25	3	14	8
Copper	mg/kg	18	11	49	10
Lead	mg/kg	17	7	75	48
Mercury	mg/kg	<0.1	<0.1	0.2	0.2
Nickel	mg/kg	6	<1	14	6
Zinc	mg/kg	18	5	51	33

Organochlorine Pesticides in soil						
Our Reference:	UNITS	135800-12	135800-18	135800-29	135800-31	135800-45
Your Reference	----------	BH6-03	BH27-01	BH11-02	BH2-01	MW19-02
Depth	----------	2.0-2.1	0.2-0.5	1.2-1.3	0.2-0.3	0.5-0.6
Date Sampled		09/10/2015	09/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	108	108	108	108	110

Organochlorine Pesticides in soil						
Our Reference:	UNITS	135800-50	135800-55	135800-57	135800-58	135800-60
Your Reference	----------	BH4-01	BH13-01	BH13-03	BH12-01	BH12-03
Depth	----------	0.2-0.3	0.3-0.4	1.2-1.3	02-0.5	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	104	104	104	106	111

Organochlorine Pesticides in soil						
Our Reference:	UNITS	135800-64	135800-67	135800-71	135800-78	135800-80
Your Reference	----------	BH25-01	BH26-01	BH24-02	BH22-03	BH21-02
Depth	----------	0.3-0.5	0.5-0.7	0.9-1.0	2.0-2.1	1.0-1.1
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	104	113	104	108	107

PCBs in Soil			
Our Reference:	UNITS	135800-47	135800-48
Your Reference	----------	BH17-01	BH17-02
Depth	----------	0.3-0.4	0.5-0.6
Date Sampled		08/10/2015	08/10/2015
Type of sample		Soil	Soil
Date extracted	-	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	103	106

Moisture						
Our Reference:	UNITS	135800-1	135800-2	135800-4	135800-5	135800-7
Your Reference	----------	BH30-01	BH30-02	BH1-01	BH1-02	BH3-01
Depth	----------	0.5-0.6	1.0-1.1	0.2-0.3	0.8-1.0	0.2-0.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	9.7	19	5.7	6.8	5.0

Moisture						
Our Reference:	UNITS	135800-10	135800-12	135800-13	135800-15	135800-16
Your Reference	----------	BH6-01	BH6-03	BH10-01	MW21-01	MW21-02
Depth	----------	0.5-0.6	2.0-2.1	0.5-0.6	0.1-0.2	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	13	19	4.6	9.8	12

Moisture						
Our Reference:	UNITS	135800-18	135800-22	135800-23	135800-25	135800-26
Your Reference	----------	BH27-01	BH32-01	BH32-02	BH28-01	BH28-02
Depth	----------	0.2-0.5	0.5-0.6	1.1-1.2	0.2-0.3	1.0-1.1
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	12	8.0	14	9.1	19

Moisture						
Our Reference:	UNITS	135800-29	135800-31	135800-32	135800-35	135800-38
Your Reference	----------	BH11-02	BH2-01	BH2-02	BH7-02	BH8-02
Depth	----------	1.2-1.3	0.2-0.3	0.6-0.7	0.5-0.6	0.5-0.6
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	20	5.1	22	9.3	6.5

Moisture						
Our Reference:	UNITS	135800-40	135800-41	135800-42	135800-45	135800-46
Your Reference	----------	BH8-04	BH09-01	BH09-02	MW19-02	MW19-03
Depth	----------	1.0-1.1	0.4-0.5	1.0-1.1	0.5-0.6	1.4-1.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	24	8.2	15	22	21

Moisture						
Our Reference:	UNITS	135800-47	135800-48	135800-50	135800-53	135800-54
Your Reference	----------	BH17-01	BH17-02	BH4-01	BH18-01	BH18-02
Depth	----------	0.3-0.4	0.5-0.6	0.2-0.3	0.5-0.6	1.0-1.1
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	6.2	23	8.3	15	24

Moisture						
Our Reference:	UNITS	135800-55	135800-56	135800-57	135800-58	135800-59
Your Reference	----------	BH13-01	BH13-02	BH13-03	BH12-01	BH12-02
Depth	----------	0.3-0.4	0.6-0.7	1.2-1.3	02-0.5	0.5-1.0
Date Sampled		08/10/2015	08/10/2015	08/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	9.4	25	23	5.2	12

Moisture						
Our Reference:	UNITS	135800-60	135800-61	135800-62	135800-63	135800-64
Your Reference	----------	BH12-03	BH15-01	BH15-02	BH15-03	BH25-01
Depth	----------	1.0-1.1	0.2-0.5	0.5-0.7	1.0-1.1	0.3-0.5
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	27	3.5	7.5	20	11

Moisture						
Our Reference:	UNITS	135800-65	135800-67	135800-69	135800-71	135800-73
Your Reference	----------	BH25-02	BH26-01	BH26-03	BH24-02	BH23-01
Depth	----------	0.9-1.0	0.5-0.7	2.0-2.1	0.9-1.0	0.3-0.4
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	13	12	17	19	9.7

Moisture						
Our Reference:	UNITS	135800-74	135800-77	135800-78	135800-80	135800-81
Your Reference	----------	BH23-02	BH22-02	BH22-03	BH21-02	BH21-03
Depth	----------	0.8-1.0	1.0-1.1	2.0-2.1	1.0-1.1	2.0-2.2
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	21	16	14	23	20

Moisture						
Our Reference:	UNITS	135800-82	135800-83	135800-85	135800-86	135800-87
Your Reference	----------	BH20-01	BH20-02	QAQC-01	QAQC-03	QAQC-04
Depth	----------	0.2-0.4	0.9-1.0	0.9-1.0	1.4-1.5	0.5-0.6
Date Sampled		07/10/2015	07/10/2015	07/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	15/10/2015	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Moisture	%	15	12	15	20	9.3

Moisture			
Our Reference:	UNITS	135800-89	135800-90
Your Reference	----------	BH16-02	BH16-03
Depth	----------	0.5-0.6	1.5-1.6
Date Sampled		08/10/2015	08/10/2015
Type of sample		Soil	Soil
Date prepared	-	15/10/2015	15/10/2015
Date analysed	-	16/10/2015	16/10/2015
Moisture	%	26	17

Asbestos ID - soils						
Our Reference:	UNITS	135800-1	135800-5	135800-7	135800-10	135800-13
Your Reference	----------	BH30-01	BH1-02	BH3-01	BH6-01	BH10-01
Depth	----------	0.5-0.6	0.8-1.0	0.2-0.3	0.5-0.6	0.5-0.6
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	09/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 35g	Approx 50g	Approx 50g	Approx 45g	Approx 55g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	135800-15	135800-18	135800-22	135800-25	135800-29
Your Reference	----------	MW21-01	BH27-01	BH32-01	BH28-01	BH11-02
Depth	----------	0.1-0.2	0.2-0.5	0.5-0.6	0.2-0.3	1.2-1.3
Date Sampled		09/10/2015	09/10/2015	09/10/2015	09/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 45g	Approx 40g	Approx 50g	Approx 60g	Approx 30g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Red clayey soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	135800-31	135800-35	135800-38	135800-40	135800-41
Your Reference	----------	BH2-01	BH7-02	BH8-02	BH8-04	BH09-01
Depth	----------	0.2-0.3	0.5-0.6	0.5-0.6	1.0-1.1	0.4-0.5
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 55g	Approx 50g	Approx 50g	Approx 35g	Approx 55g
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	135800-45	135800-47	135800-50	135800-53	135800-56
Your Reference	----------	MW19-02	BH17-01	BH4-01	BH18-01	BH13-02
Depth	----------	0.5-0.6	0.3-0.4	0.2-0.3	0.5-0.6	0.6-0.7
Date Sampled		08/10/2015	08/10/2015	08/10/2015	08/10/2015	08/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 40g	Approx 45g	Approx 50g	Approx 35g	Approx 30g
Sample Description	-	Brown coarse-grained soil & rocks	Grey coarse-grained soil & rocks	Grey coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	135800-59	135800-61	135800-65	135800-67	135800-71
Your Reference	----------	BH12-02	BH15-01	BH25-02	BH26-01	BH24-02
Depth	----------	0.5-1.0	0.2-0.5	0.9-1.0	0.5-0.7	0.9-1.0
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 40g	Approx 55g	Approx 50g	Approx 40g	Approx 30g
Sample Description	-	Brown coarse-grained soil & rocks	Grey coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Grey coarse-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference:	UNITS	135800-73	135800-77	135800-80	135800-82	135800-85
Your Reference	----------	BH23-01	BH22-02	BH21-02	BH20-01	QAQC-01
Depth	----------	0.3-0.4	1.0-1.1	1.0-1.1	0.2-0.4	0.9-1.0
Date Sampled		07/10/2015	07/10/2015	07/10/2015	07/10/2015	07/10/2015
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	20/10/2015	20/10/2015	20/10/2015	20/10/2015	20/10/2015
Sample mass tested	g	Approx 50g	Approx 35g	Approx 30g	Approx 45g	Approx 30g
Sample Description	-	Grey fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils		
Our Reference:	UNITS	135800-89
Your Reference	----------	BH16-02
Depth	----------	0.5-0.6
Date Sampled		08/10/2015
Type of sample		Soil
Date analysed	-	20/10/2015
Sample mass tested	g	Approx 30g
Sample Description	-	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

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 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 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-005	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.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-4	15/10/2015
Date analysed	-			16/10/2015	135800-1	16/10/2015 || 16/10/2015	LCS-4	16/10/2015
TRHC6 - C9	mg/kg	25	Org-016	<25	135800-1	<25 || <25	LCS-4	91%
TRHC6 - C10	mg/kg	25	Org-016	<25	135800-1	<25 || <25	LCS-4	91%
Benzene	mg/kg	0.2	Org-016	<0.2	135800-1	<0.2 || <0.2	LCS-4	84%
Toluene	mg/kg	0.5	Org-016	<0.5	135800-1	<0.5 || <0.5	LCS-4	88%
Ethylbenzene	mg/kg	1	Org-016	<1	135800-1	<1 || <1	LCS-4	93%
m+p-xylene	mg/kg	2	Org-016	<2	135800-1	<2 || <2	LCS-4	96%
o-Xylene	mg/kg	1	Org-016	<1	135800-1	<1 || <1	LCS-4	94%
naphthalene	mg/kg	1	Org-014	<1	135800-1	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	135800-1	78 || 80 || RPD: 3	LCS-4	85%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-4	15/10/2015
Date analysed	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-4	15/10/2015
TRHC10 - C14	mg/kg	50	Org-003	<50	135800-1	<50 || <50	LCS-4	105%
TRHC15 - C28	mg/kg	100	Org-003	<100	135800-1	<100 || <100	LCS-4	96%
TRHC29 - C36	mg/kg	100	Org-003	<100	135800-1	<100 || <100	LCS-4	96%
TRH>C10-C16	mg/kg	50	Org-003	<50	135800-1	<50 || <50	LCS-4	105%
TRH>C16-C34	mg/kg	100	Org-003	<100	135800-1	<100 || <100	LCS-4	96%
TRH>C34-C40	mg/kg	100	Org-003	<100	135800-1	<100 || <100	LCS-4	96%
Surrogate o-Terphenyl	%		Org-003	92	135800-1	91 || 89 || RPD: 2	LCS-4	106%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-4	15/10/2015
Date analysed	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-4	15/10/2015
Naphthalene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	LCS-4	99%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	LCS-4	83%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	135800-1	0.1 || <0.1	LCS-4	112%
Anthracene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	135800-1	0.2 || 0.1 || RPD: 67	LCS-4	96%
Pyrene	mg/kg	0.1	Org-012	<0.1	135800-1	0.2 || 0.2 || RPD: 0	LCS-4	101%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	135800-1	0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	135800-1	0.1 || <0.1	LCS-4	120%
Benzo(b,j+k) fluoranthene	mg/kg	0.2	Org-012	<0.2	135800-1	<0.2 || <0.2	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	135800-1	0.1 || 0.09 || RPD: 11	LCS-4	120%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	135800-1	0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	135800-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	135800-1	0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	98	135800-1	102 || 97 || RPD: 5	LCS-4	94%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-6	15/10/2015
Date analysed	-			15/10/2015	135800-1	15/10/2015 || 15/10/2015	LCS-6	15/10/2015
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	135800-1	9 || 7 || RPD: 25	LCS-6	106%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	135800-1	<0.4 || <0.4	LCS-6	105%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	135800-1	16 || 19 || RPD: 17	LCS-6	104%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	135800-1	12 || 12 || RPD: 0	LCS-6	108%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	135800-1	790 || 1000 || RPD: 23	LCS-6	101%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	135800-1	<0.1 || <0.1	LCS-6	100%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	135800-1	9 || 10 || RPD: 11	LCS-6	101%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	135800-1	97 || 96 || RPD: 1	LCS-6	100%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/10/2015	[NT]	[NT]	LCS-4	15/10/2015
Date analysed	-			16/10/2015	[NT]	[NT]	LCS-4	16/10/2015
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-4	99%
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-4	81%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	83%
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-4	93%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	89%
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-4	85%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	120%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	103%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-4	91%
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-4	76%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	110	[NT]	[NT]	LCS-4	124%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			15/10/2015	[NT]	[NT]	LCS-1	15/10/2015
Date analysed	-			16/10/2015	[NT]	[NT]	LCS-1	16/10/2015
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-1	114%
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	110	[NT]	[NT]	LCS-1	106%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-18	15/10/2015 || 15/10/2015	LCS-5	15/10/2015
Date analysed	-	135800-18	16/10/2015 || 16/10/2015	LCS-5	16/10/2015
$TRHC_{6}$ - C_{9}	mg/kg	135800-18	<25 || <25	LCS-5	107%
$TRHC_{6}$ - C_{10}	mg/kg	135800-18	<25 || <25	LCS-5	107%
Benzene	mg/kg	135800-18	<0.2 || <0.2	LCS-5	96%
Toluene	mg/kg	135800-18	<0.5 || <0.5	LCS-5	101%
Ethylbenzene	mg/kg	135800-18	<1 || <1	LCS-5	109%
m+p-xylene	mg/kg	135800-18	<2 || <2	LCS-5	114%
o-Xylene	mg/kg	135800-18	<1 || <1	LCS-5	112%
naphthalene	mg/kg	135800-18	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	135800-18	81 || 83 || RPD: 2	LCS-5	97%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-18	15/10/2015 || 15/10/2015	LCS-5	15/10/2015
Date analysed	-	135800-18	15/10/2015 || 15/10/2015	LCS-5	16/10/2015
$TRHC_{10}$ - C_{14}	mg/kg	135800-18	<50 || <50	LCS-5	106%
$TRHC_{15}$ - C_{28}	mg/kg	135800-18	<100 || <100	LCS-5	98%
$TRHC_{29}$ - C_{36}	mg/kg	135800-18	<100 || <100	LCS-5	93%
$TRH>C_{10}$-C_{16}	mg/kg	135800-18	<50 || <50	LCS-5	106%
$TRH>C_{16}$-C_{34}	mg/kg	135800-18	<100 || <100	LCS-5	98%
$TRH>C_{34}$-C_{40}	mg/kg	135800-18	<100 || <100	LCS-5	93%
Surrogate o-Terphenyl	%	135800-18	91 || 92 || RPD: 1	LCS-5	108%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-18	15/10/2015 || 15/10/2015	LCS-5	15/10/2015
Date analysed	-	135800-18	15/10/2015 || 15/10/2015	LCS-5	15/10/2015
Naphthalene	mg/kg	135800-18	<0.1 || <0.1	LCS-5	97%
Acenaphthylene	mg/kg	135800-18	0.5 || 0.1 || RPD: 133	[NR]	[NR]
Acenaphthene	mg/kg	135800-18	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	135800-18	0.4 || <0.1	LCS-5	103%
Phenanthrene	mg/kg	135800-18	4.8 || 0.7 || RPD: 149	LCS-5	99%
Anthracene	mg/kg	135800-18	1.3 || 0.2 || RPD: 147	[NR]	[NR]
Fluoranthene	mg/kg	135800-18	8.0 || 1.7 || RPD: 130	LCS-5	96%
Pyrene	mg/kg	135800-18	7.3 || 1.6 || RPD: 128	LCS-5	104%
Benzo(a)anthracene	mg/kg	135800-18	3.0 || 0.7 || RPD: 124	[NR]	[NR]
Chrysene	mg/kg	135800-18	3.3 || 0.9 || RPD: 114	LCS-5	120%
Benzo(b,j+k)fluoranthene	mg/kg	135800-18	4.9 || 1 || RPD: 132	[NR]	[NR]
Benzo(a)pyrene	mg/kg	135800-18	3.1 || 0.86 || RPD: 113	LCS-5	112%
Indeno(1,2,3-c,d)pyrene	mg/kg	135800-18	1.8 || 0.5 || RPD: 113	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	135800-18	0.3 || 0.1 || RPD: 100	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	135800-18	1.6 || 0.5 || RPD: 105	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135800-18	93 || 93 || RPD: 0	LCS-5	85%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135800-18	15/10/2015 || 15/10/2015	135800-2	15/10/2015
Date analysed	-	135800-18	15/10/2015 || 15/10/2015	135800-2	15/10/2015
Arsenic	mg/kg	135800-18	<4 || <4	135800-2	92%
Cadmium	mg/kg	135800-18	<0.4 || <0.4	135800-2	98%
Chromium	mg/kg	135800-18	7 || 6 || RPD: 15	135800-2	99%
Copper	mg/kg	135800-18	9 || 9 || RPD: 0	135800-2	103%
Lead	mg/kg	135800-18	55 || 54 || RPD: 2	135800-2	108%
Mercury	mg/kg	135800-18	0.1 || 0.1 || RPD: 0	135800-2	109%
Nickel	mg/kg	135800-18	5 || 3 || RPD: 50	135800-2	95%
Zinc	mg/kg	135800-18	34 || 32 || RPD: 6	135800-2	95%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	135800-18	15/10/2015 || 15/10/2015
Date analysed	-	135800-18	16/10/2015 || 16/10/2015
HCB	mg/kg	135800-18	<0.1 || <0.1
alpha-BHC	mg/kg	135800-18	<0.1 || <0.1
gamma-BHC	mg/kg	135800-18	<0.1 || <0.1
beta-BHC	mg/kg	135800-18	<0.1 || <0.1
Heptachlor	mg/kg	135800-18	<0.1 || <0.1
delta-BHC	mg/kg	135800-18	<0.1 || <0.1
Aldrin	mg/kg	135800-18	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	135800-18	<0.1 || <0.1
gamma-Chlordane	mg/kg	135800-18	<0.1 || <0.1
alpha-chlordane	mg/kg	135800-18	<0.1 || <0.1
Endosulfan I	mg/kg	135800-18	<0.1 || <0.1
pp-DDE	mg/kg	135800-18	<0.1 || <0.1
Dieldrin	mg/kg	135800-18	<0.1 || <0.1
Endrin	mg/kg	135800-18	<0.1 || <0.1
pp-DDD	mg/kg	135800-18	<0.1 || <0.1
Endosulfan II	mg/kg	135800-18	<0.1 || <0.1
pp-DDT	mg/kg	135800-18	<0.1 || <0.1
Endrin Aldehyde	mg/kg	135800-18	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	135800-18	<0.1 || <0.1
Methoxychlor	mg/kg	135800-18	<0.1 || <0.1
Surrogate TCMX	%	135800-18	108 || 108 || RPD: 0

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-40	15/10/2015 || 15/10/2015	LCS-6	15/10/2015
Date analysed	-	135800-40	16/10/2015 || 16/10/2015	LCS-6	16/10/2015
$TRHC_6 - C_9$	mg/kg	135800-40	<25 || <25	LCS-6	101%
$TRHC_6 - C_{10}$	mg/kg	135800-40	<25 || <25	LCS-6	101%
Benzene	mg/kg	135800-40	<0.2 || <0.2	LCS-6	92%
Toluene	mg/kg	135800-40	<0.5 || <0.5	LCS-6	94%
Ethylbenzene	mg/kg	135800-40	<1 || <1	LCS-6	104%
m+p-xylene	mg/kg	135800-40	<2 || <2	LCS-6	108%
o-Xylene	mg/kg	135800-40	<1 || <1	LCS-6	106%
naphthalene	mg/kg	135800-40	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	135800-40	88 || 84 || RPD: 5	LCS-6	91%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-40	15/10/2015 || 15/10/2015	LCS-6	15/10/2015
Date analysed	-	135800-40	16/10/2015 || 16/10/2015	LCS-6	16/10/2015
$TRHC_{10} - C_{14}$	mg/kg	135800-40	<50 || <50	LCS-6	103%
$TRHC_{15} - C_{28}$	mg/kg	135800-40	<100 || <100	LCS-6	96%
$TRHC_{29} - C_{36}$	mg/kg	135800-40	<100 || <100	LCS-6	85%
$TRH{>}C_{10}-C_{16}$	mg/kg	135800-40	<50 || <50	LCS-6	103%
$TRH{>}C_{16}-C_{34}$	mg/kg	135800-40	<100 || <100	LCS-6	96%
$TRH{>}C_{34}-C_{40}$	mg/kg	135800-40	<100 || <100	LCS-6	85%
Surrogate o-Terphenyl	%	135800-40	92 || 92 || RPD: 0	LCS-6	102%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-40	15/10/2015 || 15/10/2015	LCS-6	15/10/2015
Date analysed	-	135800-40	15/10/2015 || 15/10/2015	LCS-6	16/10/2015
Naphthalene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	95%
Acenaphthylene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	97%
Phenanthrene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	99%
Anthracene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	95%
Pyrene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	99%
Benzo(a)anthracene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	135800-40	<0.1 || <0.1	LCS-6	113%
Benzo(b,j+k)fluoranthene	mg/kg	135800-40	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	135800-40	<0.05 || <0.05	LCS-6	111%
Indeno(1,2,3-c,d)pyrene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(g,h,i)perylene	mg/kg	135800-40	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135800-40	93 || 93 || RPD: 0	LCS-6	95%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135800-40	15/10/2015 || 15/10/2015	LCS-7	15/10/2015
Date analysed	-	135800-40	15/10/2015 || 15/10/2015	LCS-7	15/10/2015
Arsenic	mg/kg	135800-40	6 || 6 || RPD: 0	LCS-7	108%
Cadmium	mg/kg	135800-40	<0.4 || <0.4	LCS-7	104%
Chromium	mg/kg	135800-40	19 || 20 || RPD: 5	LCS-7	104%
Copper	mg/kg	135800-40	20 || 17 || RPD: 16	LCS-7	108%
Lead	mg/kg	135800-40	13 || 15 || RPD: 14	LCS-7	100%
Mercury	mg/kg	135800-40	<0.1 || <0.1	LCS-7	94%
Nickel	mg/kg	135800-40	9 || 7 || RPD: 25	LCS-7	101%
Zinc	mg/kg	135800-40	18 || 14 || RPD: 25	LCS-7	100%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-56	15/10/2015 || 15/10/2015	135800-2	15/10/2015
Date analysed	-	135800-56	16/10/2015 || 16/10/2015	135800-2	16/10/2015
$TRHC_6$ - C_9	mg/kg	135800-56	<25 || <25	135800-2	100%
$TRHC_6$ - C_{10}	mg/kg	135800-56	<25 || <25	135800-2	100%
Benzene	mg/kg	135800-56	<0.2 || <0.2	135800-2	91%
Toluene	mg/kg	135800-56	<0.5 || <0.5	135800-2	94%
Ethylbenzene	mg/kg	135800-56	<1 || <1	135800-2	102%
m+p-xylene	mg/kg	135800-56	<2 || <2	135800-2	106%
o-Xylene	mg/kg	135800-56	<1 || <1	135800-2	104%
naphthalene	mg/kg	135800-56	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	135800-56	86 || 87 || RPD: 1	135800-2	77%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-56	15/10/2015 || 15/10/2015	135800-2	15/10/2015
Date analysed	-	135800-56	16/10/2015 || 16/10/2015	135800-2	15/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	135800-56	<50 || <50	135800-2	93%
TRHC$_{15}$ - C$_{28}$	mg/kg	135800-56	<100 || <100	135800-2	71%
TRHC$_{29}$ - C$_{36}$	mg/kg	135800-56	<100 || <100	135800-2	79%
TRH>C$_{10}$-C$_{16}$	mg/kg	135800-56	<50 || <50	135800-2	93%
TRH>C$_{16}$-C$_{34}$	mg/kg	135800-56	<100 || <100	135800-2	71%
TRH>C$_{34}$-C$_{40}$	mg/kg	135800-56	<100 || <100	135800-2	79%
Surrogate o-Terphenyl	%	135800-56	90 || 90 || RPD: 0	135800-2	106%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-56	15/10/2015 || 15/10/2015	135800-2	15/10/2015
Date analysed	-	135800-56	16/10/2015 || 16/10/2015	135800-2	15/10/2015
Naphthalene	mg/kg	135800-56	<0.1 || <0.1	135800-2	98%
Acenaphthylene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	135800-56	<0.1 || <0.1	135800-2	79%
Phenanthrene	mg/kg	135800-56	0.1 || <0.1	135800-2	112%
Anthracene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	135800-56	0.2 || <0.1	135800-2	96%
Pyrene	mg/kg	135800-56	0.2 || <0.1	135800-2	100%
Benzo(a)anthracene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	135800-56	0.1 || <0.1	135800-2	118%
Benzo(b,j+k)fluoranthene	mg/kg	135800-56	0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	135800-56	0.1 || <0.05	135800-2	119%
Indeno(1,2,3-c,d)pyrene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	135800-56	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135800-56	99 || 99 || RPD: 0	135800-2	92%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135800-56	15/10/2015 || 15/10/2015	135800-45	15/10/2015
Date analysed	-	135800-56	15/10/2015 || 15/10/2015	135800-45	15/10/2015
Arsenic	mg/kg	135800-56	10 || 10 || RPD: 0	135800-45	76%
Cadmium	mg/kg	135800-56	<0.4 || <0.4	135800-45	83%
Chromium	mg/kg	135800-56	18 || 15 || RPD: 18	135800-45	88%
Copper	mg/kg	135800-56	23 || 24 || RPD: 4	135800-45	104%
Lead	mg/kg	135800-56	41 || 29 || RPD: 34	135800-45	78%
Mercury	mg/kg	135800-56	<0.1 || <0.1	135800-45	123%
Nickel	mg/kg	135800-56	6 || 4 || RPD: 40	135800-45	81%
Zinc	mg/kg	135800-56	120 || 100 || RPD: 18	135800-45	78%
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-73	15/10/2015 || 15/10/2015	135800-45	15/10/2015
Date analysed	-	135800-73	16/10/2015 || 16/10/2015	135800-45	16/10/2015
$TRHC_6$ - C_9	mg/kg	135800-73	<25 || <25	135800-45	113%
$TRHC_6$ - C_{10}	mg/kg	135800-73	<25 || <25	135800-45	113%
Benzene	mg/kg	135800-73	<0.2 || <0.2	135800-45	104%
Toluene	mg/kg	135800-73	<0.5 || <0.5	135800-45	110%
Ethylbenzene	mg/kg	135800-73	<1 || <1	135800-45	115%
m+p-xylene	mg/kg	135800-73	<2 || <2	135800-45	119%
o-Xylene	mg/kg	135800-73	<1 || <1	135800-45	117%
naphthalene	mg/kg	135800-73	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	135800-73	88 || 93 || RPD: 6	135800-45	90%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-73	15/10/2015 || 15/10/2015	135800-45	15/10/2015
Date analysed	-	135800-73	16/10/2015 || 16/10/2015	135800-45	16/10/2015
$TRHC_{10}$ - C_{14}	mg/kg	135800-73	<50 || <50	135800-45	112%
$TRHC_{15}$ - C_{28}	mg/kg	135800-73	<100 || <100	135800-45	105%
$TRHC_{29}$ - C_{36}	mg/kg	135800-73	<100 || <100	135800-45	81%
$TRH>C_{10}$-C_{16}	mg/kg	135800-73	<50 || <50	135800-45	112%
$TRH>C_{16}$-C_{34}	mg/kg	135800-73	<100 || <100	135800-45	105%
$TRH>C_{34}$-C_{40}	mg/kg	135800-73	<100 || <100	135800-45	81%
Surrogate o-Terphenyl	%	135800-73	91 || 90 || RPD: 1	135800-45	108%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-73	15/10/2015 || 15/10/2015	135800-45	15/10/2015
Date analysed	-	135800-73	16/10/2015 || 16/10/2015	135800-45	15/10/2015
Naphthalene	mg/kg	135800-73	<0.1 || <0.1	135800-45	105%
Acenaphthylene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	135800-73	<0.1 || <0.1	135800-45	95%
Phenanthrene	mg/kg	135800-73	<0.1 || <0.1	135800-45	105%
Anthracene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	135800-73	<0.1 || <0.1	135800-45	100%
Pyrene	mg/kg	135800-73	<0.1 || <0.1	135800-45	110%
Benzo(a)anthracene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	135800-73	<0.1 || <0.1	135800-45	126%
Benzo(b,j+k)fluoranthene	mg/kg	135800-73	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	135800-73	<0.05 || <0.05	135800-45	117%
Indeno(1,2,3-c,d)pyrene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	135800-73	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135800-73	96 || 98 || RPD: 2	135800-45	94%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135800-73	15/10/2015 || 15/10/2015	LCS-8	15/10/2015
Date analysed	-	135800-73	15/10/2015 || 15/10/2015	LCS-8	15/10/2015
Arsenic	mg/kg	135800-73	<4 || <4	LCS-8	103%
Cadmium	mg/kg	135800-73	<0.4 || <0.4	LCS-8	101%
Chromium	mg/kg	135800-73	8 || 8 || RPD: 0	LCS-8	102%
Copper	mg/kg	135800-73	9 || 8 || RPD: 12	LCS-8	104%
Lead	mg/kg	135800-73	6 || 6 || RPD: 0	LCS-8	99%
Mercury	mg/kg	135800-73	<0.1 || <0.1	LCS-8	102%
Nickel	mg/kg	135800-73	9 || 9 || RPD: 0	LCS-8	98%
Zinc	mg/kg	135800-73	19 || 19 || RPD: 0	LCS-8	99%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	135800-45	15/10/2015
Date analysed	-	[NT]	[NT]	135800-45	16/10/2015
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	135800-45	104%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	135800-45	84%
Heptachlor	mg/kg	[NT]	[NT]	135800-45	87%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	135800-45	98%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	135800-45	93%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	135800-45	89%
Dieldrin	mg/kg	[NT]	[NT]	135800-45	124%
Endrin	mg/kg	[NT]	[NT]	135800-45	107%
pp-DDD	mg/kg	[NT]	[NT]	135800-45	94%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	135800-45	73%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	135800-45	124%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-80	15/10/2015 || 15/10/2015	135800-74	15/10/2015
Date analysed	-	135800-80	16/10/2015 || 16/10/2015	135800-74	16/10/2015
TRHC$_6$ - C$_9$	mg/kg	135800-80	<25 || <25	135800-74	116%
TRHC$_6$ - C$_{10}$	mg/kg	135800-80	<25 || <25	135800-74	116%
Benzene	mg/kg	135800-80	<0.2 || <0.2	135800-74	103%
Toluene	mg/kg	135800-80	<0.5 || <0.5	135800-74	109%
Ethylbenzene	mg/kg	135800-80	<1 || <1	135800-74	120%
m+p-xylene	mg/kg	135800-80	<2 || <2	135800-74	125%
o-Xylene	mg/kg	135800-80	<1 || <1	135800-74	124%
naphthalene	mg/kg	135800-80	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	135800-80	90 || 88 || RPD: 2	135800-74	90%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-80	15/10/2015 || 15/10/2015	135800-74	15/10/2015
Date analysed	-	135800-80	16/10/2015 || 16/10/2015	135800-74	16/10/2015
TRHC$_{10}$ - C$_{14}$	mg/kg	135800-80	<50 || <50	135800-74	99%
TRHC$_{15}$ - C$_{28}$	mg/kg	135800-80	<100 || <100	135800-74	94%
TRHC$_{29}$ - C$_{36}$	mg/kg	135800-80	<100 || <100	135800-74	86%
TRH>C$_{10}$-C$_{16}$	mg/kg	135800-80	<50 || <50	135800-74	99%
TRH>C$_{16}$-C$_{34}$	mg/kg	135800-80	<100 || <100	135800-74	94%
TRH>C$_{34}$-C$_{40}$	mg/kg	135800-80	<100 || <100	135800-74	86%
Surrogate o-Terphenyl	%	135800-80	89 || 90 || RPD: 1	135800-74	102%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135800-80	15/10/2015 || 15/10/2015	135800-74	15/10/2015
Date analysed	-	135800-80	16/10/2015 || 16/10/2015	135800-74	16/10/2015
Naphthalene	mg/kg	135800-80	<0.1 || <0.1	135800-74	94%
Acenaphthylene	mg/kg	135800-80	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Acenaphthene	mg/kg	135800-80	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	135800-80	<0.1 || <0.1	135800-74	96%
Phenanthrene	mg/kg	135800-80	0.6 || 0.6 || RPD: 0	135800-74	98%
Anthracene	mg/kg	135800-80	0.2 || 0.2 || RPD: 0	[NR]	[NR]
Fluoranthene	mg/kg	135800-80	1.6 || 1.5 || RPD: 6	135800-74	89%
Pyrene	mg/kg	135800-80	1.5 || 1.4 || RPD: 7	135800-74	93%
Benzo(a)anthracene	mg/kg	135800-80	0.8 || 0.8 || RPD: 0	[NR]	[NR]
Chrysene	mg/kg	135800-80	1 || 0.9 || RPD: 11	135800-74	108%
Benzo(b,j+k)fluoranthene	mg/kg	135800-80	2 || 1 || RPD: 67	[NR]	[NR]
Benzo(a)pyrene	mg/kg	135800-80	0.91 || 0.85 || RPD: 7	135800-74	108%
Indeno(1,2,3-c,d)pyrene	mg/kg	135800-80	0.5 || 0.4 || RPD: 22	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	135800-80	<0.1 || <0.1	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(g,h,i)perylene	mg/kg	135800-80	0.5 || 0.5 || RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135800-80	98 || 99 || RPD: 1	135800-74	93%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135800-80	15/10/2015 || 15/10/2015	135800-74	15/10/2015
Date analysed	-	135800-80	15/10/2015 || 15/10/2015	135800-74	15/10/2015
Arsenic	mg/kg	135800-80	7 || 6 || RPD: 15	135800-74	81%
Cadmium	mg/kg	135800-80	<0.4 || <0.4	135800-74	88%
Chromium	mg/kg	135800-80	18 || 15 || RPD: 18	135800-74	90%
Copper	mg/kg	135800-80	40 || 36 || RPD: 11	135800-74	94%
Lead	mg/kg	135800-80	130 || 76 || RPD: 52	135800-74	94%
Mercury	mg/kg	135800-80	0.1 || 0.2 || RPD: 67	135800-74	92%
Nickel	mg/kg	135800-80	9 || 10 || RPD: 11	135800-74	78%
Zinc	mg/kg	135800-80	51 || 49 || RPD: 4	135800-74	95%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	135800-80	15/10/2015 || 15/10/2015
Date analysed	-	135800-80	16/10/2015 || 16/10/2015
HCB	mg/kg	135800-80	<0.1 || <0.1
alpha-BHC	mg/kg	135800-80	<0.1 || <0.1
gamma-BHC	mg/kg	135800-80	<0.1 || <0.1
beta-BHC	mg/kg	135800-80	<0.1 || <0.1
Heptachlor	mg/kg	135800-80	<0.1 || <0.1
delta-BHC	mg/kg	135800-80	<0.1 || <0.1
Aldrin	mg/kg	135800-80	<0.1 || <0.1
Heptachlor Epoxide	mg/kg	135800-80	<0.1 || <0.1
gamma-Chlordane	mg/kg	135800-80	<0.1 || <0.1
alpha-chlordane	mg/kg	135800-80	<0.1 || <0.1
Endosulfan I	mg/kg	135800-80	<0.1 || <0.1
pp-DDE	mg/kg	135800-80	<0.1 || <0.1
Dieldrin	mg/kg	135800-80	<0.1 || <0.1
Endrin	mg/kg	135800-80	<0.1 || <0.1
pp-DDD	mg/kg	135800-80	<0.1 || <0.1
Endosulfan II	mg/kg	135800-80	<0.1 || <0.1
pp-DDT	mg/kg	135800-80	<0.1 || <0.1
Endrin Aldehyde	mg/kg	135800-80	<0.1 || <0.1
Endosulfan Sulphate	mg/kg	135800-80	<0.1 || <0.1
Methoxychlor	mg/kg	135800-80	<0.1 || <0.1
Surrogate TCMX	%	135800-80	107 || 111 || RPD: 4

Client Reference: CES1450907-DYL

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	LCS-9	15/10/2015
Date analysed	-	[NT]	[NT]	LCS-9	15/10/2015
Arsenic	mg/kg	[NT]	[NT]	LCS-9	102%
Cadmium	mg/kg	[NT]	[NT]	LCS-9	101%
Chromium	mg/kg	[NT]	[NT]	LCS-9	101%
Copper	mg/kg	[NT]	[NT]	LCS-9	103%
Lead	mg/kg	[NT]	[NT]	LCS-9	100%
Mercury	mg/kg	[NT]	[NT]	LCS-9	93%
Nickel	mg/kg	[NT]	[NT]	LCS-9	98%
Zinc	mg/kg	[NT]	[NT]	LCS-9	98%

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 135800-80 for Pb. Therefore a triplicate result has been issued as laboratory sample number 135800-96.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 135800-18 for Ni. Therefore a triplicate result has been issued as laboratory sample number 135800-97.

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

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.
Note: Samples requested for asbestos testing were sub-sampled from jars provided by the client.

Asbestos ID was analysed by Approved Identifier: Paul Ching
Asbestos ID was authorised by Approved Signatory: Paul Ching

INS: Insufficient sample for this test
NA: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
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.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

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 (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

CHAIN OF CUSTODY - Client

22414

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: " "	**Envirolab Quote No. :**
Sampler: ERIN MILLAR	**Date results required:**
Address: LEVEL 1, SUITE 3	**Or choose:** (standard) / same day / 1 day / 2 day / 3 day
55 GRANDVIEW STREET	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
PYMBLE	**Lab comments:**
Phone: **Mob:** 0427 110 715	
Fax: erin.millar@consultingearth.com.au	
Email: jack.dobson@consultingearth.com.au	

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth (M)	Date sampled	Type of sample	COMBO 3	ASBESTOS	PCB's	OC	HOLD										Provide as much information about the sample as you can
1	MW20 - 01	~~0.5-0.6~~	9/10/15	SOIL	X	X													
2	MW20 - 02	1.0 - 1.1	9/10/15	" "	X														
3	MW20 - 03	2.0 - 2.1	9/10/15	" "					X										
4	BH1 - 01	0.2 - 0.3	8/10/15	" "	X														
5	BH1 - 02	0.8 - 1.0	8/10/15	" "	X	X													
6	BH1 - 03	1.6 - 1.7	8/10/15	" "					X										
7	BH3 - 01	0.2 - 0.3	9/10/15	" "	X	X													
8	BH3 - 02	1.0 - 1.1	9/10/15	"					X										
9	BH3 - 03	1.6 - 1.7	9/10/15	"					X										
10	BH6 - 01	0.5 - 0.6	9/10/15	" "	X	X													
11	BH6 - 02	1.1 - 1.2	9/10/15	" "					X										
12	BH6 - 03	2.0 - 2.1	9/10/15	" "	X			X											
13	BH10 - 01	0.5 - 0.6	9/10/15	" "	X	X													

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 135800

Date Received: 9/10/15

Time Received: 1850

Received by: KM

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: ~~Intact/Broken/None~~

Samples On: 9/10/15 ~~12~~ 1810

Relinquished by (company):	**Received by (company):** 2LS
Print Name:	**Print Name:** Kevin Wong
Date & Time:	**Date & Time:** 9/10/15 1856 ~~1950~~
Signature:	**Signature:**

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: -1 **(if applicable)**
Transported by: Hand delivered / courier

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CHAIN OF CUSTODY - Client

22415

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES 150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: " "	**Envirolab Quote No. :**
Sampler: ERIN MILLAR	**Date results required:**
Address: LEVEL 1, SUITE 3	**Or choose:** standard / same day / 1 day / 2 day / 3 day
55 GRANDVIEW STREET	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
PYMBLE	**Lab comments:**
Phone: **Mob:** 0427 110 715	
Fax: erinmillar@consultingearth.com.au	
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information (135800)	Depth (m)	Date sampled	Type of sample	10mg/3	Asbestos	PCB	OC	HOLD											Provide as much information about the sample as you can
14	BH10 - 02	1.3-1.4	9/10/15	SOIL					x											
15	MW21 - 01	0.1-0.2	"	"	x	x														
16	MW21 - 02	1.0 - 1.1	"	"	x															
17	MW21 - 03	1.1 - 1.2	"	"					x											
18	BH27 - 01	0.2-0.5	"	"	x	x		x												
19	BH27 - 02	0.7-0.8	"	"					x											
20	BH27 - 03	1.1 - 1.2	"	"					x											
21	BH27 - 04	2.1 - 2.2	"	"					x											
22	MW22 - 01	0.5 - 0.6	"	"	x	x														
23	MW22 - 02	1.1 - 1.2	"	"	x															
24	MW22 - 03	1.9-2.0	"	"					x											
25	BH28 - 01	0.2-0.3	"	"	x	x														
26	BH28 - 02	1.0 - 1.1	"	"	x															

Relinquished by (company):	**Received by (company):** ZLS	***Lab use only:***
Print Name:	**Print Name:** Kevin Wang	**Samples Received: Cool or Ambient (circle one)**
Date & Time:	**Date & Time:** 9/10/15 1850	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

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CHAIN OF CUSTODY - Client

22416

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: "	**Envirolab Quote No. :**
Sampler: ERIN MILLAR	**Date results required:**
Address: LEVEL 1, SUITE 3	**Or choose:** standard / same day / 1 day / 2 day / 3 day
55 GRANDVIEW STREET	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
PYMBLE	**Lab comments:**
Phone: **Mob:** 04 27 110 715	
Fax: erin.miller@consultingearth.com.au	
Email: jack.dobson@consultingearth.com.au	

Sample information					Tests Required														Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	10mg3	Asbestos	PCB	OC	Hold										Provide as much information about the sample as you can
	135800																		
27	BH28-03	1.4-1.5	9/10/15	SOIL					X										
28	BH11-01	~~0.2-0.3~~ 0.5-0.6	9/10/15	"					X										
29	BH11-02	~~0.5-0.6~~ 1.2-1.3	"	"	X	X		X											
~~30~~ W.R.	~~BH11-03~~	~~1.2-1.3~~	~~"~~	~~"~~					X										
31	BH2-01	0.2-0.3	"	"	X	X		X											
32	BH2-02	0.6-0.7	"	"	X														
33	BH2-03	1.2-1.3	"	"					X										
34	BH7-01	0.2-0.4	"	"					X										
35	BH7-02	0.5-0.6	"	"	X	X													
36	BH7-03	1.2-1.3	"	"					X										
37	BH8-01	0.2-0.4	"	"					X										
38	BH8-02	0.5-0.6	"	"	X	X													
39	BH8-03	1.2-1.3	"	"	X														

Relinquished by (company):	**Received by (company):** 3LS	***Lab use only:***
Print Name:	**Print Name:** Kerin Wang	**Samples Received: Cool or Ambient (circle one)**
Date & Time:	**Date & Time:** 9/10/15 1800	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

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22417

CHAIN OF CUSTODY - Client

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

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1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: "	**Envirolab Quote No. :**
Sampler: WESLEY SOUTH	**Date results required:**
Address: LEVEL 1, SUITE 3 55 GRANDVIEW STREET PYMBLE	**Or choose:** (standard) / same day / 1 day / 2 day / 3 day
Phone: **Mob:** 0427 110 715	*Note: Inform lab in advance if urgent turnaround is required - surcharges appiy*
Fax: wesley.south@consultingearth.com.au	**Lab comments:**
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information (135800)	Depth	Date sampled	Type of sample	COMSS3	Asbestos	PCB	OC	HOLD											Provide as much information about the sample as you can
40	BH8 - 04	1.0 - 1.1	8/10/15	SOIL	X	X														
41	BH09 - 01	0.4 - 0.5	"	"	X	X														
~~42~~ 42	BH09 - 02	1.0 - 1.1	"	"	X															
43	BH09 - 03	1.4 - 1.5	"	"					X											
44	MW19 - 01	0.3 - 0.4	"	"					X											
45	MW19 - 02	0.5 - 0.6	"	"	X	X		X												
46	MW19 - 03	1.4 - 1.5	"	"	X															
47	BH17 - 01	0.3 - 0.4	"	"	X	X	X													
48	BH17 - 02	0.5 - 0.6	"	"	X		X													
49	BH17 - 03	1.5 - 1.6	"	"					X											
50	BH4 - 01	0.2 - 0.3	"	"	X	X		X												
51	BH4 - 02	0.5 - 0.6	"	"					X											
52	BH4 - 03	1.3 - 1.4	"	"					X											

Relinquished by (company):	**Received by (company):** ZLS
Print Name:	**Print Name:** Kevin Wang
Date & Time:	**Date & Time:** 9/10/15 @ 18:50
Signature:	**Signature:**

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: **(if applicable)**
Transported by: Hand delivered / courier

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CHAIN OF CUSTODY - Client

22418

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

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Ph 03 9763 2500 / melbourne@envirolab.com.au

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Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: " "	**Envirolab Quote No. :**
Sampler: WESLEY SOUTH	**Date results required:**
Address: LEVEL 1, SUITE 3 55 GRANDVIEW STREET PYMBLE	**Or choose:** standard / same day / 1 day / 2 day / 3 day
Phone: **Mob:** 0427 110 715	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Fax: wesley.south@consultingearth.com.au	**Lab comments:**
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information (135800)	Depth (m)	Date sampled	Type of sample	Comb x 3	Asbestos	PCB	OC												Provide as much information about the sample as you can
53	BH18 - 01	0.5-0.6	8/10/15	SOIL	X	X														
54	BH18 - 02	1.0-1.1	"	"	X															
55	BH13 - 01	0.3-0.4	"	"				X												
56	BH13 - 02	0.6-0.7	"	"	X	X														
57	BH13 - 03	1.2-1.3	"	"				X												
58	BH12 - 01	0.2-0.5	7/10/15	"				X												
59	BH12 - 02	0.5-1.0	"	"	X	X														
60	BH12 - 03	1.0-1.1	"	"				X												
61	BH15 - 01	0.2-0.5	"	"	X	X														
62	BH15 - 02	0.5-0.7	"	"	X															
63	BH15 - 03	1.0-1.1	"	"	X															
64	BH25 - 01	0.3-0.5	"	"				X												
65	BH25 - 02	0.9-1.0	"	"	X	X														

Relinquished by (company):	**Received by (company):** ES	***Lab use only:***
Print Name:	**Print Name:** Kevin Way	**Samples Received: Cool or Ambient (circle one)**
Date & Time:	**Date & Time:** 9/10/15 18:50	**Temperature Received at:** (if applicable)
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

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CHAIN OF CUSTODY - Client

22419

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907 - DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: "	**Envirolab Quote No. :**
Sampler: WESLEY SOUTH	**Date results required:**
Address: LEVEL 1 , SUITE 3 55 GRANDVIEW STREET PYMBLE	**Or choose** standard / same day / 1 day / 2 day / 3 day *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: **Mob:** 04 27 110 715	**Lab comments:**
Fax: wesley.south@consultingearth.com.au	
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information (135820)	Depth (M)	Date sampled	Type of sample	Combo 3	Asbestos	PCB	OC	Fold											Provide as much information about the sample as you can
66	BH25 - 03	1.1 - 1.2	7/10/15	SOIL					x											
67	BH26 - 01	0.5 - 0.7	"	"	x	x		x												
68	BH26 - 02	0.9 - 1.0	"	"					x											
69	BH26 - 03	2.0 - 2.1	"	"	x															
70	BH24 - 01	0.3 - 0.4	"	"					x											
71	BH24 - 02	0.9 - 1.0	"	"	x	x		x												
72	BH24 - 03	1.8 - 1.9	"	"					x											
73	BH23 - 01	0.3 - 0.4	"	"	x	x														
74	BH23 - 02	0.8 - 1.0	"	"	x															
75	BH23 - 03	2.1 - 2.2	"	"					x											
76	BH22 - 01	0.3 - 0.4	"	"					x											
77	BH22 - 02	1.0 - 1.1	"	"	x	x														
78	BH22 - 03	2.0 - 2.1	"	"	x			x												

Relinquished by (company):	**Received by (company):** ZB	***Lab use only:***
Print Name:	**Print Name:** Kevin Wang	**Samples Received: Cool or Ambient (circle one)**
Date & Time:	**Date & Time:** 9/10/15 10:50a	**Temperature Received at:** **(if applicable)**
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

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CHAIN OF CUSTODY - Client

22421

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907-DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr: "	**Envirolab Quote No. :**
Sampler: ERIN HILLAR	**Date results required:**
Address: LEVEL 1, SUITE 3	**Or choose:** (standard) / same day / 1 day / 2 day / 3 day
55 GRANVILLE STREET	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
PYMBLE	**Lab comments:**
Phone: **Mob:** 0427 110 715	
Fax: erin.hillar@consultingearth.com.au	
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information (135800)	Depth (m)	Date sampled	Type of sample	COMBO 3	79B&S TRH	PCB	OC	HOLD											Provide as much information about the sample as you can
79	BH21 - 01	0.5	7/10/15	SOIL					X											
80	BH21 - 02	1.0 - 1.1	"	"	X	X		X												
81	BH21 - 03	2.0 - 2.2	"	"	X															
82	BH20 - 01	0.2 - 0.4	"	"	X	X														
83	BH20 - 02	0.9 - 1.0	"	"	X															
84	BH20 - 03		"	"					X											

Relinquished by (company):	**Received by (company):** ALS	***Lab use only:***
Print Name:	**Print Name:** Leina Wey	**Samples Received: Cool or Ambient (circle one)**
Date & Time:	**Date & Time:** 9/10/15 1850	**Temperature Received at:** **(if applicable)**
Signature:	**Signature:**	**Transported by: Hand delivered / courier**

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CHAIN OF CUSTODY - Client

22422

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS	**Client Project Name / Number / Site etc (ie report title):** CES150907- DYL
Contact Person: JACK DOBSON	**PO No.:**
Project Mgr:	**Envirolab Quote No. :**
Sampler: ERIN MILLAR	**Date results required:**
Address: LEVEL 1, SUITE 3 55 GRANDVIEW STREET PYMBLE	**Or choose:** standard / same day / 1 day / 2 day / 3 day
Phone: **Mob:** 0427 110 715	*Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Fax: erinmillar@consultingearth.com.au	**Lab comments:**
Email: jack.dobson@consultingearth.com.au	

Sample information | **Tests Required** | **Comments**

Envirolab Sample ID	Client Sample ID or information 135800	Depth (M)	Date sampled	Type of sample	COMBO 3	ASBESTOS	PCB	OC	HOLD									Provide as much information about the sample as you can
85	QAQC - 01	0.9-1.0	7/10/15	SOIL	X	X												
	* QAQC - 02	0.9-1.0	"	"	Please send to ALS for split analysis of QAQC - 01													
86	QAQC - 03	1.4-1.5	8/10/15	"	X													
87	QAQC - 04	0.5-0.6	"	"	X													
88	BH16 - 01	0.3-0.4	"	"					X									
89	BH16 - 02	0.5-0.6	"	"	X	X												
90	BH16 - 03	1.5-1.6	"	"	X													
91	QAQC 05																	
92	QAQC 06																	
93	QAQC 07																	
94	QAQC 08																	
95	QAQC-09																	

Extra (Kevin)

Relinquished by (company): CES	**Received by (company):** ALS	***Lab use only:***	
Print Name: ERIN MILLAR	**Print Name:** Kevin Wang	**Samples Received: Cool or Ambient (circle one)**	
Date & Time: 9/10/15	**Date & Time:** 9/10/15 @ 1850.	**Temperature Received at:**	**(if applicable)**
Signature:	**Signature:**	**Transported by: Hand delivered / courier**	

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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1533621**	Page	: 1 of 5
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: JACK DOBSON	Contact	:
Address	: Suite 3, Level 1 55-65 Grandview Street PYMBLE NSW, AUSTRALIA 2073	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jack.dobson@consultingearth.com.au	E-mail	:
Telephone	: +61 02 8569 2200	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9983 0582	Facsimile	: +61-2-8784 8500
Project	: CES150907-DYL	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 14-Oct-2015 16:00
C-O-C number	: 22422	Date Analysis Commenced	: 15-Oct-2015
Sampler	: ----	Issue Date	: 21-Oct-2015 16:03
Site	: ----		
		No. of samples received	: 1
Quote number	: ----	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

General Comments

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

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

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

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

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QAQC-02 0.9-1.0	----	----	----	----
				Client sampling date / time	[07-Oct-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1533621-001	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1	%		11.2	----	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		17	----	----	----	----
Copper	7440-50-8	5	mg/kg		24	----	----	----	----
Lead	7439-92-1	5	mg/kg		61	----	----	----	----
Nickel	7440-02-0	2	mg/kg		18	----	----	----	----
Zinc	7440-66-6	5	mg/kg		54	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		1.3	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		2.7	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		2.7	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		1.2	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		1.3	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		1.6	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		0.6	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		1.4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		0.7	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		14.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		1.8	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		2.1	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		2.3	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QAQC-02 0.9-1.0	----	----	----	----
				Client sampling date / time	[07-Oct-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1533621-001	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	>C10_C16	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**99.0**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**101**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**85.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**92.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**105**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**98.0**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**102**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**101**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QAQC-02 0.9-1.0	----	----	----	----
				Client sampling date / time	[07-Oct-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1533621-001	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**94.7**	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES1533621**	Page	: 1 of 7
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: JACK DOBSON	Contact	:
Address	: Suite 3, Level 1 55-65 Grandview Street PYMBLE NSW, AUSTRALIA 2073	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jack.dobson@consultingearth.com.au	E-mail	:
Telephone	: +61 02 8569 2200	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9983 0582	Facsimile	: +61-2-8784 8500
Project	: CES150907-DYL	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 14-Oct-2015
C-O-C number	: 22422	Date Analysis Commenced	: 15-Oct-2015
Sampler	: ----	Issue Date	: 21-Oct-2015
Site	: ----	No. of samples received	: 1
Quote number	: ----	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

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

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics

General Comments

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

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

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

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 248123)									
ES1533626-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	13.5	11.9	12.4	0% - 50%
ES1533676-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	14.8	16.3	9.77	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 247838)									
ES1533611-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	45	45	0.00	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	<5	44.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	10	16.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	77	72	5.89	0% - 50%
ES1533627-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	19	5.53	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	13	11	15.4	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	102	90	12.9	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	369	315	15.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1380	1550	11.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 247839)									
ES1533611-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1533627-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 244241)									
ES1533611-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 244241) - continued									
ES1533611-001	Anonymous	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 244103)									
ES1533568-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EW1512145-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 244240)									
ES1533611-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 244103)									
ES1533568-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EW1512145-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 244240)									
ES1533611-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 244103)									
ES1533568-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EW1512145-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 247838)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	105	92	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	87	121
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	105	80	136
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	104	93	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	103	86	124
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	107	93	131
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	103	81	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 247839)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	77.1	70	105
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 244241)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.4	79	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	91.6	77	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	91.5	79	123
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	92.4	73	121
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	95.9	76	122
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.1	70	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	99.4	72	114
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	95.3	77	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	98.6	81	123
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	98.5	72	113
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	93.2	79	123
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	90.4	77	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	100	71	113
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	95.9	80	124
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	95.4	79	123
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	97.1	79	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 244103)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	95.8	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 244240)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	97.9	71	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	112	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.7	64	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 244103)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 244103) - continued								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	92.5	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 244240)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	107	70	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	114	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	95.6	63	131
EP080: BTEXN (QCLot: 244103)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	78.2	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.5	58	118
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	71.9	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.3	62	138
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.2	60	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	113	62	128

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005T: Total Metals by ICP-AES (QCLot: 247838)							
ES1533611-003	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	78.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	116	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	127	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 247839)							
ES1533611-004	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	86.2	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 244241)							
ES1533611-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	95.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	96.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 244103)							
EW1512145-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	104	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 244240)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 244240) - continued							
ES1533611-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	91.0	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	105	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	122	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 244103)							
EW1512145-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	102	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 244240)							
ES1533611-001	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	860 mg/kg	91.2	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	113	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	113	52	132
EP080: BTEXN (QCLot: 244103)							
EW1512145-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	86.8	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	77.3	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.7	70	130

ALS Environmental

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **ES1533621**	Page	: 1 of 4
Client	: **CONSULTING EARTH SCIENTISTS**	Laboratory	: Environmental Division Sydney
Contact	: JACK DOBSON	Telephone	: +61-2-8784 8555
Project	: CES150907-DYL	Date Samples Received	: 14-Oct-2015
Site	: ----	Issue Date	: 21-Oct-2015
Sampler	: ----	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**----**	----	----	**19-Oct-2015**	21-Oct-2015	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**19-Oct-2015**	04-Apr-2016	✓	**20-Oct-2015**	04-Apr-2016	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**19-Oct-2015**	04-Nov-2015	✓	**20-Oct-2015**	04-Nov-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071)							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**15-Oct-2015**	21-Oct-2015	✓	**16-Oct-2015**	24-Nov-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**15-Oct-2015**	21-Oct-2015	✓	**16-Oct-2015**	24-Nov-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
QAQC-02 - 0.9-1.0	**07-Oct-2015**	**15-Oct-2015**	21-Oct-2015	✓	**15-Oct-2015**	21-Oct-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	19	**10.53**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	18	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	19	**10.53**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.50**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	18	**5.56**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.26**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.

Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

22422

t

1300 42 43 44

mber / Site etc (ie report title):

0907- DYL

me day / 1 day / 2 day / 3 day

gent turnaround is required - surcharges apply

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Tests Required

Comments

HOLD												Provide as much information about the sample as you can
to ALS Co. split analysis of QAQC - c												
X												

Environmental Division
Sydney
Work Order Reference
ES1533621

Telephone : + 61-2-8784 8555

ALS
Kevin Wang
9/10/15 0850.

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: (if applicable)
Transported by: Hand delivered / courier

14/10/15 1600
10.2c

White - Lab copy / Blue - Client copy / Pink - Retain in Book

CHAIN OF CUSTODY - Client

22423

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
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16-18 Hayden Crt Myaree, WA 6154
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Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENCES
Contact Person: JACK DOBSON
Project Mgr: "
Sampler: ERIN MILLAR
Address: LEVEL 1, SUITE 3
55 GRANDVIEW STREET
PYMBLE
Phone: **Mob:** 0427 110 715
Fax: erinmiller@consultingearth.com.au
Email: jack.dobson@consultingearth.com.au

Client Project Name / Number / Site etc (ie report title): CES 150907 - DYL
PO No.:
Envirolab Quote No. :
Date results required:
Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Lab comments:

Sample information					Tests Required													Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	Combo 3													Provide as much information about the sample as you can
1	141015-EM-01		14/10/15	6. WATER	X													
2	141015-EM-02		"	"	X													
3	141015-EM-03		"	"	X													
4	141015-EM-04		"	"	X													
5	141015-EM-05		"	"	X													
6	141015-EM-06		"	"	X													
7	141015-EM-07		"	"	X													
8	141015-EM-08		15/10/15	"	X													
9	141015-EM-09		"	"	X													
10	141015-EM-10		"	"	X													
11	141015-EM-11		"	"	X													
12	141015-EM-12		"	"	X													

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No 135954

Date Received: 15/10/15
Time Received: 17:20
Received by: PT
Temp: Cool/Ambient 2°C
Cooling: Icepack
Security: Intact/Broken/None

Relinquished by (company): CONSULTING EARTH SCIENTISTS
Print Name: ERIN MILLAR
Date & Time: 15/10/15
Signature:

Received by (company): ES
Print Name: PT
Date & Time: 15/10/15 17:20
Signature: PT

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 2°C **(if applicable)**
Transported by: Hand delivered / courier

White - Lab copy / Blue - Client copy / Pink - Retain in Book

CHAIN OF CUSTODY - Client

22424

ENVIROLAB GROUP - National Phone number 1300 42 43 44

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
Ph 02 9910 6200 / sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt Myaree, WA 6154
Ph 08 9317 2505 / lab@mpl.com.au

Melbourne Lab - Envirolab Services
1A Dalmore Drive Scoresby VIC 3179
Ph 03 9763 2500 / melbourne@envirolab.com.au

Brisbane Lab - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
Ph 07 3266 9532 / brisbane@envirolab.com.au

Adelaide Lab - Envirolab Services
7 Palmerton Road Windsor Gardens, SA 5087
Ph 0406 350 706 / adelaide@envirolab.com.au

Client: CONSULTING EARTH SCIENTISTS
Contact Person: JACK DOBSON
Project Mgr: "
Sampler: ERIN MILLAR
Address: LEVEL 1, SUITE 3
55 GRANDVIEW STREET
PYMBLE
Phone: **Mob:** 0427 110 715
Fax: erin.miller@consultingearth.com.au
Email: jack.dobson@consultingearth.com.au

Client Project Name / Number / Site etc (ie report title): CES150907-DYK
PO No.:
Envirolab Quote No. :
Date results required:
Or choose: (standard) / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required - surcharges apply
Lab comments:

Sample information					Tests Required													Comments
Envirolab Sample ID	Client Sample ID or information	Depth	Date sampled	Type of sample	COMBO 3													Provide as much information about the sample as you can
13	QAQC-101		14/10/15	G. WATER	X													
14	QAQC-102		15/10/15	"	X													
—	QAQC-103		"	"	PLEASE SEND TO ALS FOR SPLIT ANALYSIS (QAQC-102)													
																		135954

Relinquished by (company): CONSULTING EARTH SCIENTISTS
Print Name: ERIN MILLAR
Date & Time: 15/10/15
Signature:

Received by (company): ELS
Print Name: PT
Date & Time: 15/10/15 17:00
Signature: PT

Lab use only:
Samples Received: Cool or Ambient (circle one)
Temperature Received at: 2.0 **(if applicable)**
Transported by: Hand delivered / courier

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12 Ashley Street, Chatswood, NSW 2067
tel: +61 2 9910 6200

email: sydney@envirolab.com.au
envirolab.com.au

Envirolab Services Pty Ltd - Sydney | ABN 37 112 535 645

CERTIFICATE OF ANALYSIS 135954

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Jack Dobson

Sample log in details:

Your Reference:	**CES 150907-DYL**
No. of samples:	14 Waters
Date samples received / completed instructions received	15/10/2015 / 15/10/2015

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:	22/10/15 / 22/10/15
Date of Preliminary Report:	Not Issued

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

Results Approved By:

Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference:	UNITS	135954-1	135954-2	135954-3	135954-4	135954-5
Your Reference	----------	141015-EM-01	141015-EM-02	141015-EM-03	141015-EM-04	141015-EM-05
Date Sampled	----------	14/10/2015	14/10/2015	14/10/2015	14/10/2015	14/10/2015
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	17/10/2015	17/10/2015	17/10/2015	17/10/2015	17/10/2015
TRHC$_6$ - C$_9$	µg/L	<10	<10	<10	<10	<10
TRHC$_6$ - C$_{10}$	µg/L	<10	<10	<10	<10	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	107	107	107	107	107
Surrogate toluene-d8	%	79	78	79	78	77
Surrogate 4-BFB	%	93	95	98	84	88

vTRH(C6-C10)/BTEXN in Water						
Our Reference:	UNITS	135954-6	135954-7	135954-8	135954-9	135954-10
Your Reference	----------	141015-EM-06	141015-EM-07	141015-EM-08	141015-EM-09	141015-EM-10
Date Sampled	----------	14/10/2015	14/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	17/10/2015	17/10/2015	17/10/2015	17/10/2015	17/10/2015
TRHC$_6$ - C$_9$	µg/L	<10	<10	<10	<10	<10
TRHC$_6$ - C$_{10}$	µg/L	<10	<10	<10	<10	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	107	107	108	108
Surrogate toluene-d8	%	77	75	77	76	75
Surrogate 4-BFB	%	95	87	92	90	87

vTRH(C6-C10)/BTEXN in Water					
Our Reference:	UNITS	135954-11	135954-12	135954-13	135954-14
Your Reference	----------	141015-EM-11	141015-EM-12	QAQC-101	QAQC-102
Date Sampled	----------	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	17/10/2015	17/10/2015	17/10/2015	17/10/2015
TRHC$_6$ - C$_9$	µg/L	<100	<10	<10	<10
TRHC$_6$ - C$_{10}$	µg/L	<100	<10	<10	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	[NA]	<10	<10	<10
Benzene	µg/L	<10	<1	<1	<1
Toluene	µg/L	<10	<1	<1	<1
Ethylbenzene	µg/L	<10	<1	<1	<1
m+p-xylene	µg/L	<20	<2	<2	<2
o-xylene	µg/L	<10	<1	<1	<1
Naphthalene	µg/L	<10	<1	<1	<1
Surrogate Dibromofluoromethane	%	108	109	107	108
Surrogate toluene-d8	%	76	75	73	74
Surrogate 4-BFB	%	93	91	89	91

svTRH (C10-C40) in Water						
Our Reference:	UNITS	135954-1	135954-2	135954-3	135954-4	135954-5
Your Reference	----------	141015-EM-01	141015-EM-02	141015-EM-03	141015-EM-04	141015-EM-05
Date Sampled	----------	14/10/2015	14/10/2015	14/10/2015	14/10/2015	14/10/2015
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	µg/L	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	µg/L	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	94	87	101	101	106

svTRH (C10-C40) in Water						
Our Reference:	UNITS	135954-6	135954-7	135954-8	135954-9	135954-10
Your Reference	----------	141015-EM-06	141015-EM-07	141015-EM-08	141015-EM-09	141015-EM-10
Date Sampled	----------	14/10/2015	14/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	µg/L	<50	<50	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	µg/L	<100	<100	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	<50	<50	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	<100	<100	<100	<100	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	88	107	106	101	89

svTRH (C10-C40) in Water					
Our Reference:	UNITS	135954-11	135954-12	135954-13	135954-14
Your Reference	----------	141015-EM-11	141015-EM-12	QAQC-101	QAQC-102
Date Sampled	----------	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015
TRHC$_{10}$ - C$_{14}$	µg/L	170	<50	<50	<50
TRHC$_{15}$ - C$_{28}$	µg/L	350	<100	<100	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100	<100	<100	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	260	<50	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	260	<50	<50	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	270	<100	<100	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100	<100	<100	<100
Surrogate o-Terphenyl	%	94	88	92	90

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	135954-1 141015-EM-01 14/10/2015 Water	135954-2 141015-EM-02 14/10/2015 Water	135954-3 141015-EM-03 14/10/2015 Water	135954-4 141015-EM-04 14/10/2015 Water	135954-5 141015-EM-05 14/10/2015 Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	98	91	92	99

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	135954-6 141015-EM-06 14/10/2015 Water	135954-7 141015-EM-07 14/10/2015 Water	135954-8 141015-EM-08 15/10/2015 Water	135954-9 141015-EM-09 15/10/2015 Water	135954-10 141015-EM-10 15/10/2015 Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	µg/L	<1	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1	<1
Phenanthrene	µg/L	<1	<1	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5	<5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	83	106	92	98	99

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	135954-11 141015-EM-11 15/10/2015 Water	135954-12 141015-EM-12 15/10/2015 Water	135954-13 QAQC-101 15/10/2015 Water	135954-14 QAQC-102 15/10/2015 Water
Date extracted	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Date analysed	-	16/10/2015	16/10/2015	16/10/2015	16/10/2015
Naphthalene	µg/L	<1	<1	<1	<1
Acenaphthylene	µg/L	<1	<1	<1	<1
Acenaphthene	µg/L	<1	<1	<1	<1
Fluorene	µg/L	<1	<1	<1	<1
Phenanthrene	µg/L	2	<1	<1	<1
Anthracene	µg/L	<1	<1	<1	<1
Fluoranthene	µg/L	<1	<1	<1	<1
Pyrene	µg/L	<1	<1	<1	<1
Benzo(a)anthracene	µg/L	<1	<1	<1	<1
Chrysene	µg/L	<1	<1	<1	<1
Benzo(b,j+k)fluoranthene	µg/L	<2	<2	<2	<2
Benzo(a)pyrene	µg/L	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	µg/L	<1	<1	<1	<1
Dibenzo(a,h)anthracene	µg/L	<1	<1	<1	<1
Benzo(g,h,i)perylene	µg/L	<1	<1	<1	<1
Benzo(a)pyrene TEQ	µg/L	<5	<5	<5	<5
Total +ve PAH's	µg/L	2.3	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94	88	86	95

HM in water - dissolved						
Our Reference:	UNITS	135954-1	135954-2	135954-3	135954-4	135954-5
Your Reference	----------	141015-EM-01	141015-EM-02	141015-EM-03	141015-EM-04	141015-EM-05
Date Sampled	----------	14/10/2015	14/10/2015	14/10/2015	14/10/2015	14/10/2015
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Date analysed	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Arsenic-Dissolved	µg/L	<1	<1	2	<1	<1
Cadmium-Dissolved	µg/L	0.2	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	8	<1	9	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	18	19	20	3	39
Zinc-Dissolved	µg/L	32	8	8	<1	8

HM in water - dissolved						
Our Reference:	UNITS	135954-6	135954-7	135954-8	135954-9	135954-10
Your Reference	----------	141015-EM-06	141015-EM-07	141015-EM-08	141015-EM-09	141015-EM-10
Date Sampled	----------	14/10/2015	14/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Date analysed	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Arsenic-Dissolved	µg/L	<1	<1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	8	2	2	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	9	47	48	32	19
Zinc-Dissolved	µg/L	<1	30	15	7	4

HM in water - dissolved					
Our Reference:	UNITS	135954-11	135954-12	135954-13	135954-14
Your Reference	----------	141015-EM-11	141015-EM-12	QAQC-101	QAQC-102
Date Sampled	----------	15/10/2015	15/10/2015	15/10/2015	15/10/2015
Type of sample		Water	Water	Water	Water
Date prepared	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Date analysed	-	19/10/2015	19/10/2015	19/10/2015	19/10/2015
Arsenic-Dissolved	µg/L	<1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	2
Lead-Dissolved	µg/L	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	4	17	3	37
Zinc-Dissolved	µg/L	<1	3	<1	8

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 Guideline on Investigation Levels for Soil and Groundwater.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			16/10/2015	135954-1	16/10/2015 || 19/10/2015	LCS-W2	16/10/2015
Date analysed	-			17/10/2015	135954-1	17/10/2015 || 19/10/2015	LCS-W2	17/10/2015
$TRHC_6$ - C_9	µg/L	10	Org-016	<10	135954-1	<10 || <10	LCS-W2	119%
$TRHC_6$ - C_{10}	µg/L	10	Org-016	<10	135954-1	<10 || <10	LCS-W2	119%
Benzene	µg/L	1	Org-016	<1	135954-1	<1 || <1	LCS-W2	113%
Toluene	µg/L	1	Org-016	<1	135954-1	<1 || <1	LCS-W2	106%
Ethylbenzene	µg/L	1	Org-016	<1	135954-1	<1 || <1	LCS-W2	121%
m+p-xylene	µg/L	2	Org-016	<2	135954-1	<2 || <2	LCS-W2	127%
o-xylene	µg/L	1	Org-016	<1	135954-1	<1 || <1	LCS-W2	129%
Naphthalene	µg/L	1	Org-013	<1	135954-1	<1 || <1	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	105	135954-1	107 || 107 || RPD: 0	LCS-W2	106%
Surrogate toluene-d8	%		Org-016	80	135954-1	79 || 75 || RPD: 5	LCS-W2	85%
Surrogate 4-BFB	%		Org-016	94	135954-1	93 || 95 || RPD: 2	LCS-W2	103%

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			16/10/2015	135954-1	16/10/2015 || 16/10/2015	LCS-W1	16/10/2015
Date analysed	-			16/10/2015	135954-1	16/10/2015 || 16/10/2015	LCS-W1	16/10/2015
$TRHC_{10}$ - C_{14}	µg/L	50	Org-003	<50	135954-1	<50 || <50	LCS-W1	99%
$TRHC_{15}$ - C_{28}	µg/L	100	Org-003	<100	135954-1	<100 || <100	LCS-W1	81%
$TRHC_{29}$ - C_{36}	µg/L	100	Org-003	<100	135954-1	<100 || <100	LCS-W1	88%
$TRH{>}C_{10}$ - C_{16}	µg/L	50	Org-003	<50	135954-1	<50 || <50	LCS-W1	99%
$TRH{>}C_{16}$ - C_{34}	µg/L	100	Org-003	<100	135954-1	<100 || <100	LCS-W1	81%
$TRH{>}C_{34}$ - C_{40}	µg/L	100	Org-003	<100	135954-1	<100 || <100	LCS-W1	88%
Surrogate o-Terphenyl	%		Org-003	77	135954-1	94 || 99 || RPD: 5	LCS-W1	106%

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			16/10/2015	135954-1	16/10/2015 || 16/10/2015	LCS-W1	16/10/2015
Date analysed	-			16/10/2015	135954-1	16/10/2015 || 16/10/2015	LCS-W1	16/10/2015
Naphthalene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	80%
Acenaphthylene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Acenaphthene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Fluorene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	81%
Phenanthrene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	88%
Anthracene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Fluoranthene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	85%
Pyrene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	89%
Benzo(a)anthracene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]

QUALITY CONTROL PAHs in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Chrysene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	102%
Benzo(b,j+k) fluoranthene	µg/L	2	Org-012	<2	135954-1	<2 || <2	[NR]	[NR]
Benzo(a)pyrene	µg/L	1	Org-012	<1	135954-1	<1 || <1	LCS-W1	89%
Indeno(1,2,3-c,d)pyrene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	1	Org-012	<1	135954-1	<1 || <1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	78	135954-1	102 || 94 || RPD: 8	LCS-W1	91%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			19/10/2015	135954-1	19/10/2015 || 19/10/2015	LCS-W1	19/10/2015
Date analysed	-			19/10/2015	135954-1	19/10/2015 || 19/10/2015	LCS-W1	19/10/2015
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	<1 || <1	LCS-W1	97%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	135954-1	0.2 || 0.3 || RPD: 40	LCS-W1	102%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	<1 || <1	LCS-W1	92%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	8 || 7 || RPD: 13	LCS-W1	99%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	<1 || <1	LCS-W1	89%
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	135954-1	<0.05 || <0.05	LCS-W1	100%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	18 || 17 || RPD: 6	LCS-W1	97%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	135954-1	32 || 30 || RPD: 6	LCS-W1	103%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date extracted	-	135954-12	16/10/2015 || 19/10/2015
Date analysed	-	135954-12	17/10/2015 || 19/10/2015
TRH C_6 - C_9	µg/L	135954-12	<10 || <10
TRH C_6 - C_{10}	µg/L	135954-12	<10 || <10
Benzene	µg/L	135954-12	<1 || <1
Toluene	µg/L	135954-12	<1 || <1
Ethylbenzene	µg/L	135954-12	<1 || <1
m+p-xylene	µg/L	135954-12	<2 || <2
o-xylene	µg/L	135954-12	<1 || <1
Naphthalene	µg/L	135954-12	<1 || <1
Surrogate Dibromofluoromethane	%	135954-12	109 || 108 || RPD: 1
Surrogate toluene-d8	%	135954-12	75 || 74 || RPD: 1

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Surrogate 4-BFB	%	135954-12	91 || 83 || RPD: 9

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135954-11	16/10/2015 || 16/10/2015	135954-2	16/10/2015
Date analysed	-	135954-11	16/10/2015 || 16/10/2015	135954-2	16/10/2015
$TRHC_{10}$ - C_{14}	µg/L	135954-11	170 || 190 || RPD: 11	135954-2	115%
$TRHC_{15}$ - C_{28}	µg/L	135954-11	350 || 440 || RPD: 23	135954-2	94%
$TRHC_{29}$ - C_{36}	µg/L	135954-11	<100 || <100	135954-2	93%
$TRH>C_{10}$ - C_{16}	µg/L	135954-11	260 || 310 || RPD: 18	135954-2	115%
$TRH>C_{16}$ - C_{34}	µg/L	135954-11	270 || 360 || RPD: 29	135954-2	94%
$TRH>C_{34}$ - C_{40}	µg/L	135954-11	<100 || <100	135954-2	93%
Surrogate o-Terphenyl	%	135954-11	94 || 100 || RPD: 6	135954-2	87%

QUALITY CONTROL PAHs in Water	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	135954-11	16/10/2015 || 16/10/2015	135954-2	16/10/2015
Date analysed	-	135954-11	16/10/2015 || 16/10/2015	135954-2	16/10/2015
Naphthalene	µg/L	135954-11	<1 || <1	135954-2	83%
Acenaphthylene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Acenaphthene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Fluorene	µg/L	135954-11	<1 || <1	135954-2	84%
Phenanthrene	µg/L	135954-11	2 || 3 || RPD: 40	135954-2	91%
Anthracene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Fluoranthene	µg/L	135954-11	<1 || <1	135954-2	88%
Pyrene	µg/L	135954-11	<1 || <1	135954-2	92%
Benzo(a)anthracene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Chrysene	µg/L	135954-11	<1 || <1	135954-2	107%
Benzo(b,j+k)fluoranthene	µg/L	135954-11	<2 || <2	[NR]	[NR]
Benzo(a)pyrene	µg/L	135954-11	<1 || <1	135954-2	95%
Indeno(1,2,3-c,d)pyrene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	135954-11	<1 || <1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	135954-11	94 || 104 || RPD: 10	135954-2	89%

Client Reference: CES 150907-DYL

QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	135954-11	19/10/2015 || 19/10/2015	135954-2	19/10/2015
Date analysed	-	135954-11	19/10/2015 || 19/10/2015	135954-2	19/10/2015
Arsenic-Dissolved	µg/L	135954-11	<1 || <1	135954-2	97%
Cadmium-Dissolved	µg/L	135954-11	<0.1 || <0.1	135954-2	96%
Chromium-Dissolved	µg/L	135954-11	<1 || <1	135954-2	92%
Copper-Dissolved	µg/L	135954-11	<1 || <1	135954-2	90%
Lead-Dissolved	µg/L	135954-11	<1 || <1	135954-2	94%
Mercury-Dissolved	µg/L	135954-11	<0.05 || <0.05	135954-2	#
Nickel-Dissolved	µg/L	135954-11	4 || 4 || RPD: 0	135954-2	88%
Zinc-Dissolved	µg/L	135954-11	<1 || <1	135954-2	94%

Report Comments:

TRH_BTEX_W: PQL has been raised due to the sample matrix requiring dilution. Sediment

METALS_WLL_8_D (Hg): # Low spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the low recovery was confirmed.
This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

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
NR: 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.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

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 (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Appendix E

Soil and Groundwater Analytical Screening and QA / QC Results

Table 1 - Soil Analytical Results - Residential Land Use Criteria

					TRH										BTEXN					
					TRH C6 - C9	TRH C6 - C10	TRH C6 - C10 Less BTEX (F1)	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	TRH >C10-C16	TRH >C10 - C16 Less Naphthalene (F2)	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m&p-Xylene	ortho-Xylene	Naphthalene
LOR					25	25	25	50	100	100	50	50	100	100	0.2	0.5	1	2	1	1
Units					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NEPM 2013 - HIL B Residential																				
NEPM 2013 - HIL C Recreational																				
NEPM 2013 - HSL SOIL A/B SAND 0m to 1m							45					110			0.5	160	55			3
NEPM 2013 - HSL SOIL A/B SAND 1m to 2m							70					240			0.5	220	NL			NL
NEPM 2013 - HSL SOIL A/B SAND 2m to 4m							110					440			0.5	310	NL			NL
NEPM 2013 - HSL SOIL A/B SAND 4m and above							200					NL			0.5	540	NL			NL
NEPM 2013 - HSL SOIL C SAND 0m to 4m and above							NL					NL			NL	NL	NL			NL
NEPM 2013 - ESL Urban Residential and public open space fine							180					120	1300	5600	65	85	70			
NEPM 2013 - EIL Urban Residential and Public Open Space																				170
Sample Description	Sample Location	Date Sampled	Depth (m)	Sample Type																
BH30-01	BH30	09-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH30-01	BH30	09-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
MW20-02	MW20	09-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH1-01	BH101	09-October-2015	0.2-0.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH1-02	BH101	09-October-2015	0.8-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH3-01	BH103	09-October-2015	0.2-0.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH6-01	BH106	09-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH6-03	BH106	09-October-2015	2.0-2.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH10-01	BH10	09-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
MW21-01	MW21	09-October-2015	0.1-0.2	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
MW21-02	MW21	09-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH27-01	BH27	09-October-2015	0.2-0.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH27-01	BH27	09-October-2015	0.2-0.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH32-01	BH32	09-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH32-02	BH32	09-October-2015	1.1-1.2	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH28-01	BH28	09-October-2015	0.2-0.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH28-02	BH28	09-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH11-02	BH11	08-October-2015	1.2-1.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH2-01	BH2	08-October-2015	0.2-0.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH2-02	BH2	08-October-2015	0.6-0.7	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH7-02	BH7	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH8-02	BH8	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH8-04	BH8	08-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH8-04	BH8	08-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH09-01	BH09	08-October-2015	0.4-0.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH09-02	BH09	08-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
MW19-02	MW19	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
MW19-03	MW19	08-October-2015	1.4-1.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH17-01	BH17	08-October-2015	0.3-0.4	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	110	<0.2	<0.5	<1	<2	<1	<1
BH17-02	BH17	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH4-01	BH4	08-October-2015	0.2-0.3	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH18-01	BH18	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH18-02	BH18	08-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH13-01	BH13	08-October-2015	0.3-0.4	SOIL																
BH13-02	BH13	08-October-2015	0.6-0.7	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH13-02	BH13	08-October-2015	0.6-0.7	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH13-03	BH13	08-October-2015	1.2-1.3	SOIL																
BH12-01	BH12	07-October-2015	02-0.5	SOIL																
BH12-02	BH12	07-October-2015	0.5-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH12-03	BH12	07-October-2015	1.0-1.1	SOIL																
BH15-01	BH15	07-October-2015	0.2-0.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH15-02	BH15	07-October-2015	0.5-0.7	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH15-03	BH15	07-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH25-01	BH25	07-October-2015	0.3-0.5	SOIL																
BH25-02	BH25	07-October-2015	0.9-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH26-01	BH26	07-October-2015	0.5-0.7	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH26-03	BH26	07-October-2015	2.0-2.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH24-02	BH24	07-October-2015	0.9-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH23-01	BH23	07-October-2015	0.3-0.4	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH23-01	BH23	07-October-2015	0.3-0.4	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH23-02	BH23	07-October-2015	0.8-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH22-02	BH22	07-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH22-03	BH22	07-October-2015	2.0-2.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH21-02	BH21	07-October-2015	1.0-1.1	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH21-03	BH21	07-October-2015	2.0-2.2	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH20-01	BH20	07-October-2015	0.2-0.4	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH20-02	BH20	07-October-2015	0.9-1.0	SOIL	<25	<25	<25	<50	200	290	<50	<50	400	310	<0.2	<0.5	<1	<2	<1	<1
QAQC-01	BH20	07-October-2015	0.9-1.0	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
QAQC-03	BH20	08-October-2015	1.4-1.5	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
QAQC-04	BH20	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH16-02	BH16	08-October-2015	0.5-0.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH16-03	BH16	08-October-2015	1.5-1.6	SOIL	<25	<25	<25	<50	<100	<100	<50	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<1
BH21-02 - TRIPLICATE	BH21	07-October-2015	1.0-1.1	SOIL																
BH27-01 - TRIPLICATE	BH27	09-October-2015	1.1	SOIL																

	PAHs																	
Sample Description	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene TEQ calc (zero)	Benzo(a)pyrene TEQ calc(half)	Total PAHs
LOR	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.05	0.1	0.1	0.1	0.5	0.5	0.5
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NEPM 2013 - HIL B Residential																4		400
NEPM 2013 - HIL C Recreational																3		300
NEPM 2013 - HSL SOIL A/B SAND 0m to 1m	3																	
NEPM 2013 - HSL SOIL A/B SAND 1m to 2m	NL																	
NEPM 2013 - HSL SOIL A/B SAND 2m to 4m	NL																	
NEPM 2013 - HSL SOIL A/B SAND 4m and above	NL																	
NEPM 2013 - HSL SOIL C SAND 0m to 4m and above	NL																	
NEPM 2013 - ESL Urban Residential and public open space fine												0.7						
NEPM 2013 - EIL Urban Residential and Public Open Space	170																	
BH30-01	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	0.1	0.1	<0.2	0.1	0.1	<0.1	0.1	<0.5	<0.5	1.3
BH30-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.2	0.09	<0.1	<0.1	<0.1	<0.5	<0.5	0.38
MW20-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH1-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH1-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH3-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH6-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH6-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH10-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
MW21-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
MW21-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH27-01	<0.1	0.5	<0.1	0.4	4.8	1.3	8	7.3	3	3.3	4.9	3.1	1.8	0.3	1.6	4.4	4.4	40
BH27-01	<0.1	0.1	<0.1	<0.1	0.7	0.2	1.7	1.6	0.7	0.9	1	0.86	0.5	0.1	0.5	1.2	1.2	9.2
BH32-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH32-02	0.3	0.5	<0.1	0.5	2.8	0.9	2.6	2.3	1.1	1.1	2	1.1	0.6	0.1	0.5	1.6	1.6	16
BH28-01	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.4	0.5	0.2	0.3	0.5	0.3	0.1	<0.1	0.1	<0.5	<0.5	2.8
BH28-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH11-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH2-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH2-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH7-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH8-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH8-04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH8-04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH09-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH09-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
MW19-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
MW19-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH17-01	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.3	0.3	0.1	0.2	0.3	0.1	<0.1	<0.1	<0.1	<0.5	<0.5	1.6
BH17-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH4-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH18-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH18-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH13-01																		
BH13-02	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.5	<0.5	1.1
BH13-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH13-03																		
BH12-01																		
BH12-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH12-03																		
BH15-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH15-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH15-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH25-01																		
BH25-02	0.1	0.2	<0.1	0.2	2.6	0.6	3.7	3.6	1.7	2.1	3	2	1.1	0.3	1.2	2.9	2.9	22
BH26-01	0.2	0.3	0.2	0.4	3.3	0.9	5.6	5.4	2.5	2.9	4.4	3	1.5	0.4	1.7	4.3	4.3	33
BH26-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH24-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH23-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH23-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH23-02	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.5	0.5	0.2	0.3	0.4	0.2	0.1	<0.1	0.1	<0.5	<0.5	2.6
BH22-02	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.5	0.5	0.3	0.3	0.5	0.3	0.1	<0.1	0.2	<0.5	<0.5	2.9
BH22-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH21-02	<0.1	0.1	<0.1	<0.1	0.6	0.2	1.6	1.5	0.8	1	2	0.91	0.5	<0.1	0.5	1.2	1.3	9.4
BH21-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH20-01	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.7	0.7	0.3	0.5	0.7	0.4	0.2	<0.1	0.2	0.5	0.5	4.1
BH20-02	0.3	0.8	<0.1	0.5	4.7	1.3	11	11	6.7	6.1	9.7	6.3	2.6	0.9	2.7	9.2	9.2	65
QAQC-01	<0.1	0.1	<0.1	0.1	1.2	0.4	2.5	2.5	1.3	1.5	2.3	1.5	0.7	0.2	0.9	2.1	2.1	15
QAQC-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
QAQC-04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH16-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH16-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.5	<0.5	
BH21-02 - TRIPLICATE																		
BH27-01 - TRIPLICATE																		

	Metals							
Sample Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LOR	4	0.4	1	1	1	0.1	1	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NEPM 2013 - HIL B Residential	500	150	500	30000	1200	120	1200	60000
NEPM 2013 - HIL C Recreational	300	90	300	17000	600	80	1200	30000
NEPM 2013 - HSL SOIL A/B SAND 0m to 1m								
NEPM 2013 - HSL SOIL A/B SAND 1m to 2m								
NEPM 2013 - HSL SOIL A/B SAND 2m to 4m								
NEPM 2013 - HSL SOIL A/B SAND 4m and above								
NEPM 2013 - HSL SOIL C SAND 0m to 4m and above								
NEPM 2013 - ESL Urban Residential and public open space fine								
NEPM 2013 - EIL Urban Residential and Public Open Space	100							
BH30-01	9	<0.4	16	12	790	<0.1	9	97
BH30-01	7	<0.4	19	12	1000	<0.1	10	96
MW20-02	5	<0.4	10	110	48	0.3	5	34
BH1-01	<4	<0.4	9	57	2	<0.1	120	37
BH1-02	<4	<0.4	17	46	19	<0.1	33	48
BH3-01	<4	<0.4	6	68	2	<0.1	110	37
BH6-01	<4	<0.4	15	52	19	<0.1	40	48
BH6-03	<4	<0.4	6	6	4	<0.1	<1	2
BH10-01	<4	<0.4	12	49	13	<0.1	38	38
MW21-01	<4	<0.4	90	33	16	<0.1	81	55
MW21-02	6	<0.4	13	17	22	0.3	8	32
BH27-01	<4	<0.4	7	9	55	0.1	5	34
BH27-01	<4	<0.4	6	9	54	0.1	3	32
BH32-01	8	<0.4	8	21	27	<0.1	6	49
BH32-02	8	<0.4	10	13	31	0.1	6	51
BH28-01	16	0.6	65	44	130	<0.1	54	84
BH28-02	5	<0.4	9	31	140	<0.1	3	18
BH11-02	6	<0.4	18	12	12	<0.1	2	6
BH2-01	<4	<0.4	6	52	2	<0.1	120	37
BH2-02	6	<0.4	23	29	21	<0.1	18	31
BH7-02	<4	<0.4	15	67	8	<0.1	67	45
BH8-02	<4	<0.4	14	43	14	<0.1	41	47
BH8-04	6	<0.4	19	20	13	<0.1	9	18
BH8-04	6	<0.4	20	17	15	<0.1	7	14
BH09-01	<4	<0.4	14	64	5	<0.1	100	41
BH09-02	<4	<0.4	10	12	12	<0.1	9	17
MW19-02	7	<0.4	22	16	16	<0.1	5	21
MW19-03	8	<0.4	17	16	16	<0.1	1	4
BH17-01	<4	<0.4	12	48	10	<0.1	120	42
BH17-02	9	<0.4	28	16	14	<0.1	5	11
BH4-01	<4	<0.4	11	57	3	<0.1	120	40
BH18-01	5	<0.4	13	15	38	<0.1	25	150
BH18-02	10	<0.4	26	15	19	<0.1	4	14
BH13-01								
BH13-02	10	<0.4	18	23	41	<0.1	6	120
BH13-02	10	<0.4	15	24	29	<0.1	4	100
BH13-03								
BH12-01								
BH12-02	5	<0.4	15	1	10	<0.1	2	8
BH12-03								
BH15-01	<4	<0.4	8	46	2	<0.1	92	34
BH15-02	4	<0.4	8	5	34	<0.1	5	53
BH15-03	9	<0.4	19	15	17	<0.1	1	4
BH25-01								
BH25-02	<4	<0.4	16	19	45	<0.1	14	37
BH26-01	4	<0.4	18	45	84	<0.1	38	87
BH26-03	<4	<0.4	8	11	12	<0.1	4	9
BH24-02	<4	<0.4	10	6	9	<0.1	2	4
BH23-01	<4	<0.4	8	9	6	<0.1	9	19
BH23-01	<4	<0.4	8	8	6	<0.1	9	19
BH23-02	6	<0.4	18	24	42	<0.1	16	42
BH22-02	19	<0.4	6	19	52	0.2	3	69
BH22-03	<4	<0.4	9	5	8	<0.1	3	3
BH21-02	7	<0.4	18	40	130	0.1	9	51
BH21-03	5	<0.4	15	14	11	<0.1	4	7
BH20-01	6	<0.4	28	27	150	0.2	27	61
BH20-02	5	<0.4	33	19	39	<0.1	24	41
QAQC-01	<4	<0.4	18	26	46	0.1	17	48
QAQC-03	8	<0.4	19	15	16	<0.1	2	7
QAQC-04	<4	<0.4	14	41	11	<0.1	50	44
BH16-02	8	<0.4	25	18	17	<0.1	6	18
BH16-03	<4	<0.4	3	11	7	<0.1	<1	5
BH21-02 - TRIPLICATE	8	<0.4	14	49	75	0.2	14	51
BH27-01 - TRIPLICATE	<4	<0.4	8	10	48	0.2	6	33

	OCPs																				PCBs						
Sample Description	HCB	alpha-BHC	gamma-BHC	beta-BHC	Heptachlor	delta-BHC	Aldrin	Heptachlor Epoxide	gamma-Chlordane	alpha-chlordane	Endosulfan I	pp-DDE	Dieldrin	Endrin	pp-DDD	Endosulfan II	pp-DDT	Endrin Aldehyde	Endosulfan Sulphate	Methoxychlor	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
LOR	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	1
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	% w/w	meq/100g
NEPM 2013 - HIL B Residential	15	-	-	-	-	-	10	-	90	90	400	600	10	20	600	400	600	-	-	500	1	1	1	1	1		
NEPM 2013 - HIL C Recreational	10	-	-	-	-	-	10	-	70	70	340	400	10	20	400	340	400	-	-	400	1	1	1	1	1		
NEPM 2013 - HSL SOIL A/B SAND 0m to 1m																											
NEPM 2013 - HSL SOIL A/B SAND 1m to 2m																											
NEPM 2013 - HSL SOIL A/B SAND 2m to 4m																											
NEPM 2013 - HSL SOIL A/B SAND 4m and above																											
NEPM 2013 - HSL SOIL C SAND 0m to 4m and above																											
NEPM 2013 - ESL Urban Residential and public open space fine																											
NEPM 2013 - EIL Urban Residential and Public Open Space																	180										
BH30-01																											
BH30-01																											
MW20-02																											
BH1-01																											
BH1-02																											
BH3-01																											
BH6-01																											
BH6-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH10-01																											
MW21-01																											
MW21-02																											
BH27-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH27-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH32-01																											
BH32-02																											
BH28-01																											
BH28-02																											
BH11-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH2-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH2-02																											
BH7-02																											
BH8-02																											
BH8-04																											
BH8-04																											
BH09-01																											
BH09-02																											
MW19-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
MW19-03																											
BH17-01																					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH17-02																					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH4-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH18-01																											
BH18-02																											
BH13-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH13-02																											
BH13-02																											
BH13-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH12-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH12-02																											
BH12-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH15-01																											
BH15-02																											
BH15-03																											
BH25-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH25-02																											
BH26-01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH26-03																											
BH24-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH23-01																											
BH23-01																											
BH23-02																											
BH22-02																											
BH22-03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH21-02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
BH21-03																											
BH20-01																											
BH20-02																											
QAQC-01																											
QAQC-03																											
QAQC-04																											
BH16-02																											
BH16-03																											
BH21-02 - TRIPLICATE																											
BH27-01 - TRIPLICATE																											

Table 2: Groundwater Analytical Results - Residential Land Use Criteria

TRH

Sample ID	Date Sampled	Sample Location	Sample Type	TRH C6 - C9	TRH C6 - C10	TRH C6 - C10 Less BTEX (F1)	TRH C10 - C14	TRH C15 - C28	TRH C29 - C36	TRH >C10-C16	TRH >C10 - C16 Less Naphthalene (F2)	TRH >C16-C34	TRH >C34-C40
LOR				25	25	25	50	100	100	50	50	100	100
Units				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
ANZECC 2000 Protection of Aquatic Ecosystems (Freshwater) - 95% Level of Protection													
NEPM 2013 - HSL A & B High Density Residential						1					1		
NEPM 2013 - HSL C Recreational / Public Open Space						NL					NL		
141015-MW22-01	14-October-2015	MW22	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW22-02	14-October-2015	MW22	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW18-01	14-October-2015	MW18	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW17-01	14-October-2015	MW17	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW24-01	14-October-2015	MW24	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW01-01	14-October-2015	MW01	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW03-01	14-October-2015	MW03	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
141015-MW09-01	14-October-2015	MW09	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
151015-MW19-01	15-October-2015	MW19	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
151015-MW11-01	15-October-2015	MW11	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
151015-MW33-01	15-October-2015	MW33	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
151015-MW21-01	15-October-2015	MW21	WATER	<100	<100		170	350	<100	260	260	270	<100
151015-MW21-02	15-October-2015	MW21	WATER				190	440	<100	310		360	<100
151015-MW38-01	15-October-2015	MW38	WATER	<10	<10	<10	<50	<100	<100	<50	<50	<100	<100
151015-MW38-02	15-October-2015	MW38	WATER	<10	<10	<10							

BTEXN / PAH

Sample ID	Benzene	Toluene	Ethylbenzene	m&p-Xylene	ortho-Xylene	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Benzo(a)pyrene TEQ calc (zero)
LOR	0.2	0.5	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	5
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
ANZECC 2000 Protection of Aquatic Ecosystems (Freshwater) - 95% Level of Protection	950	180	80	200	350	16															
NEPM 2013 - HSL A & B High Density Residential	0.8	NL	NL	NL	NL	NL															
NEPM 2013 - HSL C Recreational / Public Open Space	NL	NL	NL	NL	NL	NL															
141015-MW22-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW22-02	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW18-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW17-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW24-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW01-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW03-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
141015-MW09-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW19-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW11-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW33-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW21-01	<10	<10	<10	<20	<10	<10	<1	<1	<1	**2**	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW21-02							<1	<1	<1	**3**	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW38-01	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<5
151015-MW38-02	<1	<1	<1	<2	<1	<1															

Metals

Sample ID	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LOR	1	0.1	1	1	1	0.05	1	1
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
ANZECC 2000 Protection of Aquatic Ecosystems (Freshwater) - 95% Level of Protection	13	0.2	1	1.4	3.4	0.06	11	8
NEPM 2013 - HSL A & B High Density Residential								
NEPM 2013 - HSL C Recreational / Public Open Space								
141015-MW22-01	<1	0.2	<1	**8**	<1	<0.05	**18**	**32**
141015-MW22-02	<1	**0.3**	<1	**7**	<1	<0.05	**17**	**30**
141015-MW18-01	<1	<0.1	<1	<1	<1	<0.05	**19**	**8**
141015-MW17-01	2	<0.1	<1	**9**	<1	<0.05	**20**	8
141015-MW24-01	<1	<0.1	<1	<1	<1	<0.05	3	<1
141015-MW01-01	<1	<0.1	<1	<1	<1	<0.05	**39**	8
141015-MW03-01	<1	<0.1	<1	<1	<1	<0.05	9	<1
141015-MW09-01	<1	<0.1	<1	**8**	<1	<0.05	**47**	**30**
151015-MW19-01	<1	<0.1	<1	**2**	<1	<0.05	**48**	**15**
151015-MW11-01	<1	<0.1	<1	**2**	<1	<0.05	**32**	7
151015-MW33-01	<1	<0.1	<1	<1	<1	<0.05	**19**	4
151015-MW21-01	<1	<0.1	<1	<1	<1	<0.05	4	<1
151015-MW21-02	<1	<0.1	<1	<1	<1	<0.05	4	<1
151015-MW38-01	<1	<0.1	<1	<1	<1	<0.05	**17**	3
151015-MW38-02								

Legend:
Not analysed/ Not calculated
* LOR Exceeds Guideline Trigger Value
Sample Type: N - Primary, FD -
Concentrations fopr Chromium are Total Chroimum Values. Adopted IL screens Chromium III
Exceedance

Table 3 - Soil QA/QC Results

		Sample location	BH20-02	QAQC1	QAQC3	Blind		Split	
		Depth	0.9-1.0	0.9-1.0	0.9-1.0	Average	RPD	Average	RPD
		Date Sampled	8/10/2015	8/10/2015	8/10/2015				
		Laboratory report	135800-83	135800-85	1385800-86				
	Unit	**Envirolab LOR PQL**							
TRH C6 - C9	mg/kg	25	< 25	< 25	< 25	< 25	0.00%	< 25	0.00%
TRH C6 - C10	mg/kg	25	< 25	< 25	< 25	< 25	0.00%	< 25	0.00%
TRH C6 - C10 Less BTEX (F1)	mg/kg	25	< 25	< 25	< 25	< 25	0.00%	< 25	0.00%
TRH C10 - C14	mg/kg	0.2	< 50	<50	<50	< 50	0.00%	< 50	0.00%
TRH C15 - C28	mg/kg	0.5	< 100	<100	<100	< 100	0.00%	< 100	0.00%
TRH C29 - C36	mg/kg	0.5	<100	<100	<100	< 100	0.00%	< 100	0.00%
TRH >C10-C16	mg/kg	0.5	<50	<50	<50	< 50	0.00%	< 50	0.00%
TRH >C10 - C16 Less Naphthalene (F2)	mg/kg	0.5	<50	<50	<50	< 50	0.00%	< 50	0.00%
TRH >C16-C34	mg/kg	1	<100	<100	<100	< 100	0.00%	< 100	0.00%
TRH >C34-C40	mg/kg	50	<100	<100	<100	< 100	0.00%	< 100	0.00%
Benzene	mg/kg	100	<0.2	<0.2	<0.2	< 0.2	0.00%	< 0.2	0.00%
Toluene	mg/kg	100	<0.5	<0.5	<0.5	< 0.5	0.00%	< 0.5	0.00%
Ethylbenzene	mg/kg	50	<1	<1	<1	<1	0.00%	<1	0.00%
m&p-Xylene	mg/kg	50	<2	<2	<2	<2	0.00%	<2	0.00%
ortho-Xylene	mg/kg	100	<1	<1	<1	<1	0.00%	<1	0.00%
Total Xylenes	mg/kg	100	<3	<3	<3	<3	0.00%	<3	0.00%
Naphthalene	mg/kg	0.1	<1	<1	<1	<1	0.00%	<1	0.00%
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Benzo(b,j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	0.00%	<0.2	0.00%
Benzo(a)pyrene	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	0.00%	<0.05	0.00%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Dibenzo(a,h)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.00%	<0.1	0.00%
Total PAHs	mg/kg	4	<0.5	<0.5	<0.5	<0.5	0.00%	<0.5	0.00%
Arsenic	mg/kg	0.4	5	<4	8	N/A	N/A	N/A	46.15%
Cadmium	mg/kg	1	<0.4	<0.4	<0.4	< 0.4	0.00%	< 0.4	0.00%
Chromium	mg/kg	1	28	33	18	30.5	16.39%	23	43.48%
Copper	mg/kg	1	19	26	15	22.5	13.11%	17	33.33%
Lead	mg/kg	0.1	39	46	16	42.5	13.47%	27.5	83.63%
Mercury	mg/kg	1	<0.1	<0.1	<0.1	N/A	0.00%	N/A	0.00%
Nickel	mg/kg	1	24	17	2	20.5	34.14%	13	169.23%
Zinc	mg/kg	1	17	17	15	17	0.00%	16	12.50%

Table 3 - Groundwater QA/QC Results

Sample location				MW11	QAQC102	QAQC103	Blind		Intra-laboratory	
Date Sampled				8/10/2015	8/10/2015	8/10/2015				
Laboratory report				135954-9	135954-14					
	Unit	**Envirolab LOR PQL**	**ALS LOR PQL**				Average	RPD	Average	RPD
TRH C6 - C9	mg/L	10	20	<10	<10	< 20	< 10	0.00%	N/A	N/A
TRH C6 - C10	mg/L	10	20	< 10	< 10	< 20	< 10	0.00%	N/A	N/A
TRH C6 - C10 Less BTEX (F1)	mg/L	10	20	< 10	< 10	< 20	< 10	0.00%	N/A	N/A
TRH C10 - C14	mg/L	50	50	< 50	< 50	< 50	< 50	0.00%	< 50	N/A
TRH C15 - C28	mg/L	100	100	< 100	< 100	< 100	< 100	0.00%	< 100	N/A
TRH C29 - C36	mg/L	100	50	< 100	< 100	< 50	< 100	0.00%	N/A	N/A
TRH >C10-C16	mg/L	50	100	< 50	< 50	< 100	< 50	0.00%	N/A	N/A
TRH >C10 - C16 Less Naphthalene (F2)	mg/L	50	100	< 50	< 50	< 100	< 50	0.00%	N/A	N/A
TRH >C16-C34	mg/L	100	100	< 100	< 100	< 100	< 100	0.00%	< 100	N/A
TRH >C34-C40	mg/L	100	100	< 100	< 100	< 100	< 100	0.00%	< 100	N/A
Benzene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Toluene	mg/L	1	2	< 1	< 1	< 2	< 1	0.00%	N/A	N/A
Ethylbenzene	mg/L	1	2	< 1	< 1	< 2	< 1	0.00%	N/A	N/A
m&p-Xylene	mg/L	2	2	< 2	< 2	< 2	< 2	0.00%	< 2	N/A
ortho-Xylene	mg/L	1	2	< 1	< 1	< 2	< 1	0.00%	N/A	N/A
Total Xylenes	mg/L	3	2	< 3	< 3	< 2	< 3	0.00%	N/A	N/A
Naphthalene	mg/L	1	5	< 1	< 1	< 5	< 1	0.00%	N/A	N/A
Acenaphthylene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Acenaphthene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Fluorene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Phenanthrene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Anthracene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Fluoranthene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Pyrene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Benzo(a)anthracene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Chrysene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Benzo(b,j+k)fluoranthene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Benzo(a)pyrene	mg/L	1	0.5	< 1	< 1	<0.5	< 1	0.00%	N/A	N/A
Indeno(1,2,3-c,d)pyrene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Dibenzo(a,h)anthracene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Benzo(g,h,i)perylene	mg/L	1	1	< 1	< 1	< 1	< 1	0.00%	< 1	N/A
Total PAHs	mg/L	1	0.5	< 1	< 1	< 0.5	< 1	0.00%	N/A	N/A
Arsenic	mg/L	1	0.001	< 1	< 1	< 0.001	< 1	0.00%	N/A	N/A
Cadmium	mg/L	0.1	0.0001	< 0.1	<0.1	< 0.0001	< 0.1	0.00%	N/A	N/A
Chromium	mg/L	1	0.001	< 1	< 1	< 0.001	< 1	0.00%	N/A	N/A
Copper	mg/L	1	0.001	2	2	< 0.001	2.000	0.00%	0	N/A
Lead	mg/L	1	0.001	<1	< 1	< 0.001	< 1	0.00%	N/A	N/A
Mercury	mg/L	0.05	0.0001	< 0.05	< 1	< 0.0001	N/A	N/A	N/A	N/A
Nickel	mg/L	1	0.001	32	37	< 0.001	34.5	14.49%	14.5	N/A
Zinc	mg/L	1	0.005	7	8	< 0.005	7.5	13.33%	13.3	N/A