Pacific Brands

Report for 190 Dunmore Street, Wentworthville, NSW

Contamination Assessment

June 2009

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Excecutive Summary

Phase 1 Assessment

» The Site has been subject to a long industrial history dating back to the 1920 as such a number of activities have bee undertaken at the Site with the potential to have cause contamination beneath the Site these include but are not limited to:

  – Asbestos fragments in unsealed areas in the smoking area and potentially within the fill matrix;
  – Historical dumping of water soluble yarn lubricating wax on sloping land leading towards the bank of the former creek;
  – Former coal powered boilers and oil drum storage. The Site formerly had a POEO licence for fuel burning, likely associated with coal fired boilers;
  – Six former underground storage tanks (four east of boiler house and two between boiler house and sub station);
  – Incinerators;
  – Above ground tank and septic tank;
  – Dyehouse and spills (1990);
  – Diesel fuel storage in the pump house and spill;
  – Sodium hydroxide tank;
  – PCBs in sub station capacitors;
  – Flammable liquid store; and
  – Filling along the eastern boundary (5-6 metres above ground level) and potentially within the former creek.

Field Observations

» It was noted that the Site was generally tidy and in a state of good repair. Vegetation around the boundaries of the Site appeared healthy and sealed areas were largely free of evidence of potential contamination with the exception of the following:

  – localised likely hydrocarbon stains outside of the Site's compressor room and mechanical workshop.
  – An area of subsidence in the central carpark to the south of the office and retail facility suggested poorly compacted fill might be present (former creek).
  – Cooling tower overflow;
  – A chemical store was present on the south east corner of the current dyehouse;
  – An effluent pit that received waste water resulting from the dying of fabric;
  – Hydrogen peroxide and other chemical storage tanks as well as cooling towers were situated outside the southern wall of the dyehouse; and

  - A large bank of electrical transformers was located alongside the northern wall of the Berlie manufacturing building.
- Field observations indicated:
  - that the fill embankment along the eastern boundary of the Site generally comprised reworked natural material including red brown and grey mottled clay with shale and ironstone inclusions.
  - Deep fill (8.0m) containing a combination of gravels, clay, sand clay, minor rubble, slag, ash and charcoals was encountered in BH4 (inferred former creek);
  - In the remaining sample locations varying depths of fill (typically 0.2 – 1.0 m) were encountered. The fill typically comprised a combination of brown silt sands and reworked red brown and mottled clays. In general, the fill did not show obvious physical signs of potential contamination with the exception of some minor ash and charcoal. Beneath the fill materials were residual firm to stiff, red brown and grey mottled clays underlain by weathered grey shale grading to shale.

Discussion of Results

GHD notes that in general, contaminant concentrations reported during the current investigation do not indicate widespread, gross contamination in the Site's soils however, it must be noted that the sampling pattern and density adopted does not comply with the EPAs minimum sampling requirements. The program of sampling was targeted towards areas of potential contamination selected after review of previous reports and in consultation with client representatives.

Sampling was limited to those areas not occupied by operational Site buildings during the investigation (GHD was not allowed to provided access) which occupied a large portion of the Site. In particular GHD notes that there is a potential for contamination to be present in soil and groundwater beneath Building 1 as it is was constructed post 1960 after the Site had been operational for approximately 40 years. As such additional sampling beneath the footprint of the building is recommended once manufacturing at the Site ceases.

The presence of VOCs, ammonia and chromium in groundwater and PCBs in one soil sampling location indicated that the Site would not currently be considered suitable for residential re development. Further investigations would be required to assess the significance of this impact. Further works may comprise soil and vapour sampling and additional groundwater investigations. These works would be required prior to establishing a remedial strategy to ensure the Site may be considered suitable (from a contamination perspective) for redevelopment (if possible residential).

GHD notes that typically redevelopment of a Site involves the excavation of large quantities of material for basements and building footings, as such any soil contamination would likely be removed and disposed of off site (in accordance with the NSW Waste Guidelines) from the Site during this process.

1. Introduction and Objectives

1.1 Introduction

GHD Pty Ltd (GHD) was commissioned by Pacific Brands to undertake a preliminary contamination assessment of 190 Dunmore Street, Wentworthville, NSW (the Site). The location of the Site is shown in **Figure 1** included in **Appendix A**.

GHD understands that Pacific Brands are considering divesting the Site and would like to gain an appreciation of the issues associated with potential soil and groundwater contamination beneath the Site, prior to divestment.

GHD understands the Site has been utilised for industrial purposes for a prolonged period of time (since the 1920s) and relevantly a dye works was located at the Site (since the 1980s). It is noted that the Site is located in a predominately residential area and as such, Pacific Brands wish to gain a general understanding regarding what additional assessment works and / or remediation maybe required to enable the site to be considered suitable for potential residential redevelopment.

1.2 Objectives

The objective of the works is to provide advice to Pacific Brands with respect to the potential for gross, widespread contamination to exist at the Site, which may pose restrictions to future redevelopment of the Site.

2. Scope of Works

In order to meet the stated objectives GHD undertook the following scope of works in May 2009:

- Review of existing documents and reports;
- Update the Phase 1, including review and interpret existing background information pertaining to the Site, through reviewing of the following sources of information:
  - NSW Department of Environment and Climate Change (DECC) Contaminated Sites Register (notifications or incidents);
  - NSW DECC POEO Licence register; and
  - NSW Department of Planning (regional bore information).
- Preparation of a safe work method statement;
- Undertake a site inspection;
- Service clearance including dial before you dig and a professional services locator;
- Concrete coring;
- Drilling and installation of five groundwater wells (two in the vicinity of underground tanks, one within the bounds of the inferred location on in filled creek and two along the inferred down gradient boundary of the Site);
- Survey installed groundwater wells, to enable inferred direction of groundwater flow to be established;
- Developing, purging and sampling the five groundwater wells;
- Analysis of five primary groundwater samples for Volatile Organic Compounds (VOCs), Total Petroleum Hydrocarbons (TPH), metals, pH, ammonia, Semi Volatile Organic Compounds (SVOCs);
- Drilling of eight boreholes ranging in depth from 1.3 to 6.0 metres targeting areas of deep filling and former underground storage tanks;
- Drilling of eleven soil sampling locations using a window sampler targeting potential areas of concern to depths of up to three metres;
- Analysis of representative soil samples for asbestos, Polycyclic Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyl (PCBs), TPH, metals (30 samples);
- Implementation of Quality Assurance/ Quality Control (QA/QC) program; and
- Preparation of a report documenting the findings, outlining the primary constraints to redevelopment of the Site and providing recommendations regarding additional assessment and / or remediation, which may be considered.

GHD notes the scope of works was not a compliant Phase 2 Contamination Assessment, but a targeted assessment in the primary areas of concern as identified during the site inspection and review of previous reports.

3. Background Information

The Site is located at 190 Dunmore Street, Wentworthville, NSW (Lot 1 – DP735207) and occupies a plan area of 7.995 hectares. Buildings cover 4.75 hectares of the Site and there are sealed car parking facilities for 363 passenger vehicles.

GHD understands the Site has been utilised for industrial purposes for a prolonged period of time (since the 1920s) and relevantly a dye works was located at the Site (since the 1980s). In general, ground contamination at the Site may result from the accidental spillage of chemicals in storage areas or during the various stages of manufacturing yarn, making dyes and dyeing textiles. Further off-loading areas, storage tanks and drum storage areas, pipework and surface water soakaways may be considered likely areas of contamination. Older or upgraded works may have redundant underground tanks or pipelines containing chemical residues or wastes. Effluents from washing fibres, yarn or fabric are normally discharged to the foul sewer but may be lost to the surrounding ground if the sewer leaks. The textile industry has in the past used solid waste to make up ground levels on site. Solid wastes may have been disposed of in on-site landfills.

Where asbestos has been used in buildings or pipework, decommissioning or demolition may result in local contamination. Asbestos pipework and boiler ash (containing heavy metals and sulphates) may have been disposed of in on-site landfills. Any organic infill also has the potential to generate landfill gases, principally methane and carbon dioxide.

Contamination may also occur from PCBs where transformers or capacitors containing these have been refilled or decommissioned.

GHD has undertaken a preliminary review of the following documentation:

» *Preliminary Environmental Assessment, Bonds Industries, 190 Dunmore Road, Wentworthville NSW, Richard Oliver, July 2001* (Phase 1).

» *Asbestos Contamination Investigations, Pacific Brands, Smoking Area Bonds Warehouse, 190 Dunmore Street, Wentworthville NSW, Noel Arnold & Associates October 2007, and*

» *Asbestos Materials Survey Report, Bonds, 109 Dunmore Street, Wentworthville, NSW, Noel Arnold & Associates, November 2007.*

3.1 Potential Sources of Contamination

The following site-specific potential sources of contamination were identified in these reports:

» Asbestos fragments in unsealed areas in the smoking area and potentially within the fill matrix;

» Historical dumping of water soluble yarn lubricating wax on sloping land leading towards the bank of the former creek;

- Former coal powered boilers and oil drum storage;
- Six former underground storage tanks (four east of boiler house and two between boiler house and sub station);
- Incinerators;
- Above ground tank and septic tank;
- Dyehouse and spills (1990);
- Diesel fuel storage in the pump house and spill;
- Sodium hydroxide tank;
- PCBs in sub station capacitors;
- Flammable liquid store; and
- Filling along the eastern boundary (5-6 metres above ground level) and potentially within the former creek.

3.2 Potential Contaminants of Concern

In summary, the following potential contaminants may be consider to be of primary concern at the Site:

- Metals;
- Organic compounds (including phosphates and ammonia);
- Chlorinated and non chlorinated organic solvents (PCE, TCE and benzene and toluene);
- Pesticides (including OCPs, naphthalene, dieldrin);
- Soaps and detergents (alkybenzene);
- Dyes (basic, acid);
- Hydrocarbons from fuels (TPH, BTEX);
- Boiler/ incinerator (metals, TPH, PAH);
- Building materials and filling (asbestos); and
- Sub stations capacitors (TPH, PCBs).

3.3 Supplementary Phase 1 Information

The following sources of information were reviewed and interpreted in order to update the Site's history:

- NSW Department of Environment and Climate Change (DECC) Contaminated Sites Register (notifications or incidents);
- NSW DECC POEO Licence register; and
- NSW Department of Planning (regional bore information).

3.4 NSW DECC Records

Under the provisions of the NSW *Contaminated Land Management Act* (1997, Section 58, Subsection 2 'CLM Act') a public register of current NSW declarations and orders in force is maintained by the DECC. The search of the register was undertaken on a local government area (LGA) basis (Holroyd City Council).

Under the NSW Protection of the Environment Operations Act (1997, the 'POEO Act') a register of current and surrendered licences is also maintained by the DECC. The search of the register was undertaken on a suburb basis (Wentworthville).

The searches conducted for this investigation included the entire Holroyd City Council Area. The results of the Contaminated Sites Register and POEO Register searches are summarised in the following **Sections 3.4.1** and **3.4.2**. The search results of the Contaminated Sites Register and POEO Register are contained in **Appendix B**.

3.4.1 Contaminated Sites Register

The NSW DECC Contaminated Sites Register lists both former and current contaminated sites deemed to pose a 'Significant Risk of Harm' (SRoH) under the provisions of the CLM Act. The register identifies the location of listed sites and provides notices (including site audit statements) relating to those Sites. These notices also indicate the contaminants of concern and their nature of harm to the environment and human health.

The search conducted on 27 May 2009 identified one notice relating to a site within the Holroyd City Council area, however the listed property is not located within a one-kilometre radius of the subject Site. The property is thus not considered further in this investigation as it is considered sufficiently removed from the Site so as not to present a risk from contamination migration.

3.4.2 POEO Licence Register

The NSW DECC POEO Licence Register identifies premises that are licensed for certain activity types under the POEO Act. Information of particular relevance to this investigation, which is listed on the Register, includes site location, activity type, relevant clean up notices, non-compliance information and Load-Based Licensing (LBL) data. Current POEO licences are also available for viewing from the register. Each licence provides information on potential point and non-point sources of soil and groundwater contamination that may be generated on-site through standard operations, accidental spills and leaks. Clean up notices, non-compliance information and LBL data is also relevant when non-compliance is related to soil and water pollution, particularly if contaminants are listed.

The search conducted on 27 May 2009 identified five premises in Wentworthville, which previously held a POEO license or notice (including the subject Site) and one which held a current license. Two of the properties were located within an approximate one-kilometre radius of the subject Site and the license details are as follows:

- Joseph Nader located at 145 Wentworth Avenue, Wentworthville, approximately 350m north east of the Site. The licence is current and listed under the activity of Waste Transporters – Hazardous / Industrial; and
- Holroyd City Council (Wentworthville Swimming Centre) located on Dunmore Street, approximately 600m east of the Site. The license was surrendered on 24 July 2001, and was formerly under the activity type of Miscellaneous Licensed Discharges to Waters (at any time).

In addition to these two sites the subject Site surrendered a license of type 'Fuel Burning Equipment' on 3 May 2000. No further details were available for theses former licenses the may have been associated with the former Site boilers.

3.4.3 Topography

Topographic maps on the Spatial Information Exchange (SIX)[1] report the Site to be at an elevation of approximately 50 mAHD (metres Australian Height Datum). The topographic map indicates that the site generally slopes from the west to the east.

The topography was confirmed during the site inspection. The Site sloped from a high point on the western boundary to a low point below a large fill bank on the eastern boundary. The surrounding topography indicated that the Site originally sloped gradually from the west to the east and it was subsequently levelled across the centre by cutting a large amount of material from the west and centre and pushing it towards the east of the Site.

A steep excavation wall approximately 10 to 15 metres high existed towards the western boundary and a steep fill embankment approximately five metres high on towards the eastern boundary.

Further information on the site inspection is detailed in **Section 6.1**.

3.4.4 Geology

The *1:100,000 Penrith (9030), Geological Series Sheet*[2] identified the underlying geology at the Site and immediate surrounds as Ashfield Shale comprising dark grey to black claystone – siltstone and fine sandstone – siltstone laminate.

Drilling on-site indicated that the Ashfield shale was relatively shallow beneath the soil and in some instances encountered at less than 1m below the ground surface, particularly across the centre of the Site where it is most likely levelling was previously undertaken.

3.4.5 Soils and Landscape

The *1:100,000 Penrith (9030) Soil Landscape Series Sheet*[3] identified the underlying soils at the Site as Blacktown type, comprising shallow to moderately deep hard setting

[1] NSW Department of Lands website

[2] Department of Minerals and Energy, Geological Survey of NSW, 1991.

[3] Soil Conservation Service of NSW, 1991.

mottled red brown podzolic soils on crests grading to yellow podzolic soils on lower slopes and drainage lines.

The stated limitations of the soil type are low soil fertility, poor drainage and are moderately reactive.

On-site intrusive investigations identified varying depths of fill overlying firm to stiff red brown and grey mottled firm to stiff residual clay with shale and ironstone inclusions. The residual soil encountered was consistent with those detailed in the soil landscape series sheet.

3.4.6 Acid Sulphate Soils

Due to the Site's elevation the risk of Acid Sulphate soils occurring are low. A search of Acid Sulphate Soils Risk Maps[4] identified that no maps had been produced for the area of the Site hence confirming that Acid Sulphate Soils would be unlikely at the Site.

3.4.7 Hydrology

The Site was predominately sealed and covered by bitumen, concrete and large manufacturing and retail buildings with some landscaped and grassed areas along the western, southern and eastern boundaries. During times of rainfall it is therefore anticipated that the majority of rain falling on the Site would run across sealed surfaces into the internal stormwater collection system and concrete stormwater detention basin located in the south east corner of the Site. From there it is likely to enter external stormwater infrastructure located within Jones Street along the eastern boundary of the Site. Some infiltration into the Site's subsoil would likely occur in the remaining unsealed areas.

With the exception of the detention basin (which was empty at the time of the on-site works) no surface water was noted on the Site or in close proximity to the Site during the site inspection.

The closest water body to the Site is Coopers Creek, which is located approximately 750 east of the Site. Coopers Creek is a tributary of Toongabbie Creek and the Parramatta River

3.4.8 Hydrogeology

The NSW Assessment of Pollution Risk Map 1:2,000,000[5] indicates that groundwater in the general vicinity of the Site typically "*has a salinity over 14,000 mg/L, which would be considered unsuitable domestic, irrigation and / or stock uses*". The map indicates that the Site is likely to be underlain by shale and siltstone sedimentary formations and that the potential for groundwater movement is low.

[4] NSW Land and Water Conservation, 1997

[5] Department of Water Resources, NSW (1987)

A search of Natural Resource Atlas (Department of Planning) records in May 2009, did not identify any existing borehole wells located within an approximate one-kilometre radius of the Site.

A copy of the borehole search results is included in **Appendix B**.

3.5 Sampling and Analytical Plan

Table 1 on the following page provides a summary of sources, contaminants and how they were targeted.

Table 1 Summary Sampling and Analytical Program

Potential Source of Contamination	Potential Contaminants	Soil / Groundwater	Sampling targeting this area	Analytical program
Fill embankment along eastern boundary of the Site.	Metals, TPH / BTEX, PAH, PCB and asbestos.	Soil	*Soils:* GW3/0-0.2, GW4/0-0.2, BH5/0-0.2, BH5/4.8-5.0	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos.
Former USTs	VOC, TPH / BTEX, PAH, Lead	Soil / Groundwater	*Soils:* GW1/0-0.2, GW1/2.8-3.0, GW2/0.2-1.0-1.2, BH1/0.1-0.3, WS10/0-0.1 *Groundwater:* GW1, GW2.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos. *Groundwater:* sVOC, VOC, metals, TPH, ammonia
Infilling of former creek located in central eastern portion of the Site.	Metals, TPH / BTEX, VOC, sVOC, PCB, asbestos, ammonia.	Soil / groundwater	*Soils:* WS9/0-0.1, WS9/0.6-0.7, BH4/0.1, BH4/3.8-4.0, BH5/0-0.2, BH5/4.8-5.0. *Groundwater:* BH4, BH5.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos. *Groundwater:* sVOC, VOC, metals, TPH, ammonia
Previous coal fired boiler house.	TPH / BTEX, PAH, metals, asbestos	Soil	*Soils:* WS8/0.2-0.3, WS9/0-0.1, WS9/0.6-0.7.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos.
Cooling towers	Metals, TPH / BTEX, PAH and PCB	Soil	*Soils:* WS6/0-0.1, WS6/0.2-0.3, WS6/0.7-0.8.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos.
Electrical substation / transformers	Metals, TPH / BTEX, PAH and PCB	Soil	*Soils:* WS5/0.2-0.3 and WS10/0-0.1.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos
Previous incinerator, diesel spill at fire pump house.	Metals, TPH / BTEX, PAH and asbestos	Soil	*Soils:* BH3/0-0.1, BH3/0.5-0.6, BH3/0.9-1.0.	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos
Site mechanical workshop and air compressor room.	Metals, PAH, TPH / BTEX	Soil	*Soils:* WS7/0.2-0.3 and WS11/0.2-0.3	*Soils:* Metals, TPH / BTEX, PAH, and PCB.

Potential Source of Contamination	Potential Contaminants	Soil / Groundwater	Sampling targeting this area	Analytical program
Sodium hydroxide tank, chemical store, effluent pit around south east corner of current dye house.	Metals, PAH, TPH / BTEX and PCB.	Soil / Groundwater	*Soils:* WS1/0.6-0.7, WS2/0.3-0.4, WS3/0.2-0.3, WS3/1.3-1.4, WS4/0.3-0.4, GW4/0-0.2 *Groundwater:* GW4	*Soils:* Metals, TPH / BTEX, PAH, PCB and asbestos *Groundwater:* sVOC, VOC, metals, TPH, ammonia
Asbestos in unsealed smoking area.	Asbestos	Soil	*Soils:* WS9/0-0.1	*Soils:* Asbestos

4. Basis for Contamination Assessment

4.1 Relevant Guidelines

The framework for the contamination assessment made herein, was developed in accordance with guidelines "made or approved", by the NSW EPA (now the Department of Environment and Climate Change (DECC)), under Section 105 of the *Contaminated Land Management Act, 1997*. These guidelines include, but are not limited to the following:

- NSW EPA (1994), "*Contaminated Sites: Guidelines for Assessing Service Station Sites*".
- NSW EPA (1995), "*Contaminated Sites: Sampling Design Guidelines*".
- NSW EPA (1997), "*Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*".
- NSW EPA (1999), "*Contaminated Sites: Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report*".
- NEPM (1999), "*National Environment Protection (Assessment of Site Contamination) Measure*", National Environment Protection Council (NEPC).
- ANZECC (2000), "*National Water Quality Management Strategy, Paper No. 4, Australian and New Zealand Guidelines for Fresh and Marine Water Quality*", October 2000, Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ).
- NSW DEC (2006), "*Contaminated Sites: Guidelines for NSW Site Auditor Scheme*".
- NSW DEC (2007), *"Guidelines for the Assessment and Management of Groundwater Contamination".*
- NSW DECC (2008), "*Waste Classification Guidelines Part 1: Classifying Waste*".

4.2 Assessment Criteria (soil)

The assessment criteria (investigation levels) against which the project analytical data is compared have been taken from those guidelines made or approved by the NSW DECC.

4.2.1 Health Based Criteria

Health-based soil Investigation Levels (HILs) are provided for a range of different exposure settings, which are based on the nature of the use(s) for which the land is currently used and / or its approved use(s). Given that Pacific Brands may potentially be sold for residential redevelopment, this assessment is based on exposure setting A (residential with gardens and accessible soil) from herein referred as (HIL(A)) and

exposure setting D (residential with minimal access to soil), from herein referred to as HIL(D)).

Residential use HIL(A) includes children's day care centres, preschools and primary schools, or town houses or villas (home-grown produce contributing less than 10% fruit and vegetable intake; no poultry) and high density residential use HIL(D) includes high rise apartments and flats, as published in the NSW EPA (1998), "*Guidelines for the NSW Site Auditor Scheme*".

For some contaminants (including TPH C_6-C_9) for which no HIL is presented in the NSW EPA (2006), "*Guidelines for the NSW Site Auditor Scheme*", reference is made to the sensitive land use threshold provided in the NSW EPA (1994), "*Guidelines for Assessing Service Station Sites*".

4.2.2 Provisional Phytotoxicity Based Investigation Levels

Provisional Phytotoxicity Based Investigation Levels (PBILs) relate to the potential uptake of contaminants that may result in adverse, phytotoxic impacts on sensitive plant species. PBILs are only available for certain metals and for phenol.

The PBILs have significant limitations because phototoxicity depends on soil and species parameters in ways that are not fully understood. They are intended for use as a screening guide only and may be assumed to apply to sand loam soils, or soils of a closely similar texture, for pH 6-8.

Table 2 provides a summary of the adopted criteria used to assess soil contamination levels at the site.

Table 2 Adopted Soil Criteria

Parameter	Health-Based Criteria (HIL A[a] or TC[b]) Standard Residential with Garden "A" (mg/kg)	Health-Based Criteria (HIL D[c] or TC[b]) Standard Residential without Garden "D" (mg/kg)	PBIL[d] (mg/kg)
Arsenic (total)	100	400	20
Cadmium	20	80	3
Chromium (III)	12%	48%	400
Chromium (VI)	100	400	1
Copper	1,000	4,000	100
Lead	300	1,200	600
Nickel	600	2,400	60
Zinc	7,000	28,000	200
Total Mercury (inorganic)	15	60	1
Cyanides (complex)	500	2000	-
Total Petroleum Hydrocarbons (TPH) C_6-C_9 C_{10}-C_{36}	65[b] 1,000[b]	65[b] 1,000[b]	-
Benzene	1[b]	1[b]	-
Toluene	130[b]	130[b]	-
Ethyl Benzene	50[b]	50[b]	-
Total Xylenes	25[b]	25[b]	-
Polycyclic aromatic hydrocarbons (total) (PAH)	20	80	-
Benzo(a)pyrene	1	4	-
Polychlorinated Biphenyl's (Total) (PCBs)	10	40	-

a) Health-based Investigation Levels HIL (A) - standard residential with garden / accessible soil (home grown produce contributing less than 10% of vegetable and fruit intake, no poultry): this

category includes children's day care centres, townhouses and villas, preschools and primary schools. *Guidelines for the NSW Site Auditor Scheme* (NSW DEC, 2006).

b) TC –threshold concentration from Table 3 titled 'Threshold Concentrations for Sensitive Land Use – Soils' in the "*Guidelines for Assessing Service Station Sites*" (NSW EPA, 1994).

c) Health-based Investigation Levels HIL (D) - residential with minimal access to soil including high-rise apartments and flats. *Guidelines for the NSW Site Auditor Scheme* (NSW DEC, 2006).

d) Provisional Phytotoxicity-based Investigation Levels (PBILs). *Guidelines for the NSW Site Auditor Scheme* (NSW DEC, 2006).

4.3 Assessment Criteria (water)

4.3.1 ANZECC Water Quality Guidelines

The ANZECC 2000 guidelines are approved as guidelines under Section 105 of the *Contaminated Land Management Act* 1997 as of 6 December 2001.

ANZECC 2000 outlines the principles, objectives and philosophical basis underpinning the development and application of the guidelines. It also outlines the management framework recommended for applying the water quality guidelines to the natural and semi-natural marine and freshwater resources in Australia and New Zealand. The guidelines provide a risk-based decision framework where possible, to help refine trigger values for application at local and/or regional scales. The *Guidelines for the Assessment and Management of Groundwater* should be used in conjunction with other relevant guidelines approved by the DECC, the guidelines outline the best practice framework for assessing and managing contaminated groundwater in NSW.

The NSW DECC recommends that when assessing contamination of groundwater, consideration needs to be given to the impact of any contaminants to the beneficial uses or resources of the groundwater. The beneficial uses of groundwater may include providing recharge to rivers, lakes, bays, being a source of water for drinking, irrigation and industrial uses.

For the purpose of this assessment, groundwater quality will be compared to the criteria outlined in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* ANZECC / ARMCANZ 2000 *(ANZECC 2000).* For the site, the receiving freshwater ecosystem is likely to be Coopers Creek, which feeds into the Toongabbie Creek and the Parramatta River, which are considered as "Slightly to Moderately Disturbed" fresh water. Given that there is no local biological effects data, a protection of level of 95% is proposed for the assessment of groundwater contamination.

4.3.2 Drinking Water Guidelines

The Australian Drinking Water Guidelines (ADWG) are intended to provide a framework for good/safe drinking water supplies that, if implemented will assure safety at point of use. They are designed to provide authoritative reference on what defines safe, good water quality.

They are not mandatory standards and are concerned with both safety from a health point of view and with aesthetic quality. The *Drinking Water Guidelines* are not endorsed by the NSW DECC.

While it is considered unlikely that water beneath the Site would be used for drinking purposes due to relatively high salinity and poor yields, groundwater contamination concentrations will still be compared to drinking water guidelines for completness.

Table 3 provides a summary of the adopted water investigation levels used to compare the recorded groundwater chemical concentrations.

Table 3 Adopted Groundwater Criteria

Parameter	Trigger Values 95% Fresh water[a] (µg/L)	Drinking Water Guidelines Health[b] (mg/L)
Arsenic (As III / As V)	24 / 13	0.007
Ammonia	900	-
Cadmium	0.2[c]	0.002
Chromium (VI)	1.0	0.05
Copper	1.4	2
Lead	3.4	0.01
Mercury (inorganic)	0.6	0.001
Nickel	11	0.02
Zinc	8.0	-
Total Petroleum Hydrocarbons (TPH)		
C_{10}-C_{36}	7[d]	-
Benzene	950	0.001
Toluene	180[d]	0.8
Ethylbenzene	80[d]	0.3
Xylene	625[d]	0.6
Trichloroethene	330[d]	-
Tetrachloroethene	70[d]	
Polycyclic Aromatic Hydrocarbons		
Naphthalene	16	-
Benzo(a)pyrene	0.2[d]	0.00001
Phenol	320	-

a) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC /ARMCANZ, 2000), 95% Protection Level for Fresh Water.*

b) *Australian Drinking Water Guidelines* (National Health and Medical Research Council, Agricultural and Resources Management Council of Australia and New Zealand) 2004

c) Actual concentration depends on water hardness

d) These values are low reliability trigger values (ANZECC/ARMCANZ, 2000).

5. Quality Assurance & Quality Control (QA/QC)

5.1 Data Quality Objectives

The purpose of establishing Data Quality Objectives (DQO) is to ensure that the field investigations and subsequent analyses are undertaken in a way that enables the collection and reporting of reliable data on which to base the assessment.

A process for establishing DQOs for a site has been defined by the US EPA. That process has been adopted within the Australian Standard: AS 4482.1-2005 and referenced by the *National Environment Protection (Assessment of Site Contamination) Measure (*NEPC, 1999*)* and the *Guidelines for the NSW Site Auditor Scheme, 2nd ed (*NSW DEC, 2006).

The DQO process, involves the following seven steps:

Step 1 State the problem;

Step 2 Identify the decision;

Step 3 Identify inputs to the decision;

Step 4 Define the study boundaries;

Step 5 Develop a decision rule;

Step 6 Specify limits on decision errors; and

Step 7 Optimise the design for obtaining data.

The seven steps outlined above are addressed below.

Step 1: The "Problem"

The current study is being undertaken in order to ascertain whether or not the site is subject to soil or groundwater contamination that may pose significant constraints to redevelopment of the site.

Step 2: Identification of the Decision(s)

The key decisions to be made as a result of the current study are:

» Is contamination present in soil, sediment and/or groundwater at concentrations above the applicable approved guidelines, when analysed in statistically sound manner?

» Where contamination has occurred, does it have the potential to adversely impact on human health and/or environmental receptors?

Step 3: Inputs to the Decision

Data to be input to the decision making process will include:

» Information gained via a preliminary (desk based) study (as set out in **Section 3**); and

» Appropriate screening-level criteria (investigation thresholds) for each potentially contaminated media (soil, sediment, surface water, groundwater) (as set out in **Section 4**); and

» Quantitative data gained via intrusive sampling and analytical works (as set out in **Section 2**).

Step 4: Boundaries of the study

The lateral boundaries of the study area are the Site boundaries, as depicted on **Figure 1**.

The vertical boundary with respect to soil and groundwater shall be the depth into the profile into which contamination may have potentially migrated.

Step 5: Site Decision Rule

Project analytical data will be compared to appropriate NSW DECC made or endorsed guidelines for low and medium density residential, plus applicable water quality guidelines.

On the basis of this initial comparison, plus an assessment of potential contaminant exposure pathways, a decision will be made as to whether or not the contamination may pose a potential risk, warranting management and/or remediation.

If management and/or remediation is required to address contamination issues, the will be considered via the development of a subsequent Remediation Action Plan and/or Site Management Plan.

Step 6: Specify Limits on Decision Errors

Two primary decision error-types may occur due to uncertainties or limitations in the project data set:

Type (a) Error An investigation area may be deemed to pose no unacceptable risk, when in fact it does. This may occur is contamination is 'missed' due to limitations in the sampling plan, or if the project analytical data set is unreliable.

Type (b) Error An investigation area may be deemed to pose an unacceptable risk, which in fact it does not. This may occur if the project analytical data set is unreliable, due to inappropriate sampling, sample handling, or analytical procedures.

To minimise the potential for decision errors, data quality indicators (DQIs) have been determined, for completeness, comparability, representativeness, precision and accuracy.

The DQIs for sampling techniques and laboratory analysis of collected samples defines the acceptable level of error required for this investigation. The data quality objectives will be assessed by reference to data quality indicators as follows:

– **Data Representativeness** - expresses the degree which sample data accurately and precisely represents a characteristic of a population or an

environmental condition. Representativeness is achieved by collecting samples in an appropriate pattern across the site, and by using an adequate number of sample locations to characterise the site. Consistent and repeatable sampling techniques and methods are utilised throughout the sampling.

It should be noted that the soil sampling program for the current study has been limited, and does not comply with the "*minimum sampling points required for site characterisation based on detecting circular contaminant hotspots by using a systematic sampling pattern*" (Table A, NSW EPA *Sampling Design Guidelines).*

– **Completeness** - defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study. If there is insufficient valid data, then additional data are required to be collected.

– **Comparability** - is a qualitative parameter expressing the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples and ensuring analysing laboratories use consistent analysis techniques and reporting methods.

– **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the data is assessed by calculating the Relative Percent Difference (RPD) between duplicate sample pairs.

$$RPD(\%) = \frac{|C_o - C_d|}{C_o + C_d} \times 200$$

Where Co = Analyte concentration of the original sample
Cd = Analyte concentration of the duplicate sample

GHD adopts a nominal acceptance criteria of 30% RPD for field duplicates and splits for inorganics and a nominal acceptance criteria of 50% RPD for field duplicates and splits for organics, however it is noted that this will not always be achieved, particularly in heterogenous soil or fill materials, or at low analyte concentrations.

– **Accuracy** - measures the bias in a measurement system. Accuracy can be undermined by such factors as field contamination of samples, poor preservation of samples, poor sample preparation techniques and poor selection of analysis techniques by the analysing laboratory. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes, laboratory blanks and analyses against reference standards. The nominal "acceptance limits" on laboratory control samples are defined as follows:

* Laboratory spikes – 70-130% for metals / inorganics 60-140% for organics

* Laboratory duplicates - <30% for metals / inorganics, <50% for organics

* Laboratory blanks - <practical quantitation limit

Accuracy of field works is assessed by examining the level of contamination detected in field and equipment blanks. Blanks should return concentrations of

all organic analytes as being less than the practical quantitation limit of the testing laboratory.

Step 7: Optimising the Design for Obtaining Data

To optimise the design of the investigations a sampling and analytical program has been prepared. This is outlined in **Section 3.3**.

5.2 Field Program

All fieldwork was conducted in general accordance with GHD's Standard Field Operating Procedures (**SFOP**), which are aimed at collecting environmental samples using uniform and systematic methods, as required by GHD's Quality Assurance system. Key requirements of these procedures are as follows:

- Decontamination procedures - including the use of new disposable gloves for the collection of each sample, decontamination of all multiple use sampling equipment between each sampling location (using a phosphate free detergent and deionised water rinse) and the use of dedicated sampling containers provided by the laboratory;
- Sample identification procedures - collected samples were immediately transferred to sample containers of appropriate composition and preservation for the required laboratory analysis. All sample containers were clearly labelled with a sample number, sample location, sample depth and sample date. The sample containers were then transferred to an ice filled cooler for sample preservation prior to and during shipment to the testing laboratory;
- Chain of custody protocols- a chain-of-custody form was completed and forwarded to the testing laboratory with each discrete batch of samples; and
- Sample duplicate frequency – field duplicates (blinds and splits) were collected and analysed at a rate not less than 10% (i.e. not less than one duplicate per 10 primary samples).

5.2.1 Field Quality Control

All field works were conducted by experienced environmental scientists / engineers in general accordance with GHD's SFOP.

Field quality control procedures used during the project comprised the collection and analysis of the following:

Blind duplicates: Comprise a single sample that is divided into two separate sampling containers. Both samples are sent anonymously to the primary project laboratory. Blind duplicates provide an indication of the analytical precision of the laboratory, but are inherently influenced by other factors such as sampling techniques and sample media heterogeneity.

Blind duplicates (soil and water) were collected and analysed at a rate of no less than one per 10 primary samples (i.e. 10%).

5.3 Laboratory Program

The project laboratory (Envirolab Services, Chatswood) used their internal procedures and NATA accredited methods in accordance with their quality assurance system.

5.3.1 Laboratory Quality Control

Laboratory quality control procedures used during the project were:

Laboratory duplicate samples: The analytical laboratory collects duplicate sub samples from one sample submitted for analytical testing at a rate equivalent to one in twenty samples per analytical batch, or one sample per batch if less than twenty samples are analysed in a batch. A laboratory duplicate provides data on the analytical precision and reproducibility of the test result.

Matrix Spike: An authentic field sample is 'spiked' by adding an aliquot of known concentration of the target analyte(s) prior to sample extraction and analysis. A spike documents the effect of the sample matrix on the extraction and analytical techniques. Spiked samples will be analysed for each batch where samples are analysed for organic chemicals of concern.

Laboratory Control Standards: A reference standard of known (certified) concentration is analysed along with a batch of samples. The Laboratory Control Sample (LCS) or Laboratory Control Spike provides an indication of the analytical accuracy and the precision of the test method and is used for inorganic analyses.

Surrogate Standard / Spikes: These are organic compounds which are similar to the analyte of interest in terms of chemical composition, extractability, and chromatographic conditions (retention time), but which are not normally found in environmental samples. These surrogate compounds are 'spiked' into blanks, standards and samples submitted for organic analyses by gas-chromatographic techniques prior to sample extraction. Surrogate Standard/Spikes provide a means of checking that no gross errors have occurred during any stage of the test method leading to significant analyte loss.

Method Blank: Usually an organic or aqueous solution that is as free as possible of analytes of interest to which is added all the reagents, in the same volume, as used in the preparation and subsequent analysis of the samples. The reagent blank is carried through the complete sample preparation procedure and contains the same reagent concentrations in the final solution as in the sample solution used for analysis. The reagent blank is used to correct for possible contamination resulting from the preparation or processing of the sample.

The laboratory will be required to provide this information to GHD. The individual testing laboratories shall conduct an assessment of the laboratory QC program, internally however, the results will also independently reviewed and assessed by GHD.

Laboratory duplicate samples should return the following RPD and matrix spike recoveries:

- *Duplicates:* If contaminant concentration is less than five times the PQL, any RPD is acceptable. If the contaminant concentration is more than five times the PQL and RPD of 0 – 50% is acceptable;
- *Matrix Spikes and LCS:* 70 – 130% for inorganics / metals, 60 – 140% for organics and 10 – 140% for sVOC is acceptable; and
- *Surrogates:* 60 – 140% is acceptable for general organics and 10 – 140% for sVOC.

Method (laboratory) blanks should return analyte concentrations as 'below the Practical Quantitation Level (PQL)'.

6. Investigation Results

This section presents the results of all soil and groundwater investigations undertaken at the Site by GHD in May 2009.

Soil and groundwater analytical results and groundwater field parameters are summarised in **Tables A, B** and **C** (**Appendix C**). Borehole logs for all soils penetrated during the field investigations are presented in **Appendix D**. Detailed laboratory certificates and chain of custody documentation are provided in **Appendix E.**

6.1 Site Inspection

A GHD Environmental Engineer conducted an inspection of the Site on 29 April 2009. During the site inspection the Site Manager, Yong Choi, accompanied the GHD representative and provided some information regarding the location of different Site features. Mr Choi also provided some guidance on what activities had been undertaken historically on the Site indicating; where past fuel spills were thought to have occurred, the approximate location of previous USTs and the potential location of the creek which had been filled with a combination of cut material and demolition rubble from the previous coal fired boilers. The locations of Site structures and areas of potential contamination are shown graphically in **Figure 2** included in **Appendix A**.

GHD could not gain access to a large portion of the Site (namely within manufacturing buildings and the retail outlet) as they were restricted operational areas.

During the Site inspection it was noted that the Site was generally tidy and in a state of good repair. Vegetation around the boundaries of the Site appeared healthy and sealed areas were largely free of staining with the exception of some localised likely hydrocarbon stains outside of the Site's compressor room and mechanical workshop.

In addition to the localised staining the following indicators / sources of potential contamination were noted:

- An area of subsidence in the central carpark to the south of the office and retail facility suggested poorly compacted fill might be present. The area was located within the bounds of the former creek as advised by Yong Choi;
- An unsealed area was present adjacent to the Site's cooling towers which appeared relatively damp indicating that some over flow from the towers may have been occurring;
- A chemical store was present on the south east corner of the current dyehouse. Danger signage on the store indicated that potentially contaminating chemicals and substance may be in storage;
- On the eastern side of the dyehouse there was an effluent pit that received waste water resulting from the dying of fabric;
- Hydrogen peroxide and other chemical storage tanks as well as cooling towers were situated outside the southern wall of the dyehouse;

» A large bank of electrical transformers was located alongside the northern wall of the Berlie manufacturing building (Building 1 as shown in **Figure 2**); and

» Occasional possible asbestos bearing fibro fragments noted on ground surface in the vicinity of current unsealed smoking areas.

During the inspection sampling locations were marked out in the areas identified above as well as in inferred areas where previously possible contaminating activities / infrastructure were conducted / located. Areas of possible previous contamination sources were selected on advice provided by Mr Yong Choi and information obtained from the previous Phase 1 investigation. An area inferred to once contain an on-site incinerator in the northern portion of the Site, could not be accessed as it was now occupied by offices and clothing display rooms which were occupied at the time of the current investigation.

6.2 Site Surrounds

The immediate area around the Site comprised a mixture of low to medium density residential properties. A retirement complex with large areas of open unsealed space was present along the western boundary. No industrial premises were noted in the general vicinity of the Site.

6.3 Field Observations

During drilling works undertaken to install groundwater monitoring wells and collect soil samples from the nominated locations, field borehole logs of subsurface soil conditions were recorded. The borehole logs are included **Appendix D**. The subsurface conditions encountered are summarised as follows:

» The fill embankment along the eastern boundary of the Site generally comprised reworked natural material including red brown and grey mottled clay with shale and ironstone inclusions. The depth of the reworked material typically ranged between 4 and 7 m below the existing ground surface. Generally the reworked material did not exhibit physical signs of potential contamination and was free of rubble and other foreign materials with the exception of some minor glass fragments and wire noted at approximately 5 m in sample location BH5.

» Deep fill (8.0m) containing a combination of gravels, clay, sand clay, minor rubble, slag, ash and charcoals was encountered in BH4, which was drilled within the depression in the central carpark. The location was inferred as being within the bounds of the former creek which had reportedly filled with some material remaining from the demolition of the previous coal fired boiler house. The fill material was generally poorly compacted and bearing a substantial amount of water. A groundwater well was installed in this location.

» In sample location BH3 adjacent to the fire pump house (inferred location of previous diesel spill) fill material comprising frequent bitumen, blue metal and ash / slag material was encountered. A minor hydrocarbon type odour was noted both within the fill and residual soil collected from the fill / residual interface.

- Fill material comprising sandy clays, frequent mixed gravels, ash / charcoals (possibly boiler ash), some brick fragments and wood pieces was encountered at sample location WS9.
- In the remaining sample locations varying depths of fill (typically 0.2 – 1.0 m) were encountered. The fill typically comprised a combination of brown silt sands and reworked red brown and mottled clays. In general the fill did not show obvious physical signs of potential contamination with the exception of some minor ash and charcoal.
- Beneath the fill materials were residual firm to stiff, red brown and grey mottled clays underlain by weathered grey shale grading to shale.
- No fibro fragments or other possible asbestos bearing materials were noted within the subsurface soil profile.

6.4 Soil Analytical Results

The following sections summarise the results of the analysis undertaken on selected soil samples collected from the Site during the intrusive works.

6.4.1 Metals

Generally metal concentrations were below the adopted Site assessment criteria with the exception of the following:

- Arsenic, cadmium, chromium, copper, nickel and zinc concentrations exceeded PBILs in a limited number of samples;
- WS5/0.2-0.3 and WS6/0-0.1 reported chromium concentrations of 170 and 3,300 mg/kg which exceeded the HIL(A) and HIL(D) respectively; and
- WS6/0-0.1 reported an arsenic concentration of 200 mg/kg which exceeded the HIL(A) of 100 mg/kg;

6.4.2 TPH / BTEX

The concentrations of TPH and BTEX were generally below the laboratory PQL with the exception of soil samples BH3/0.9-1.0 and WS6/0-0.1 in which TPH concentrations in the fraction C_{10} – C_{36} were 110 and 280 mg/kg respectively. Concentrations of TPH in BH3/0.9-1.0 were below the sensitive land use threshold of 1000 mg/kg.

6.4.3 PAH

Despite the presence of minor ash and charcoals observed at a number of sampling locations, soil samples reported concentrations of total PAH and benzo(a)pyrene below the health investigation levels for residential and medium to high density residential properties.

6.4.4 PCB

The concentration of PCBs were below the laboratory PQL for soils analysed from all sample locations with the exception of several samples collected sample location WS6 located adjacent to the Site's cooling towers. Samples WS6/0-0.1 and WS6/0.2-0.3 collected from the fill material reported PCB concentrations of 12 and 3 mg/kg respectively. The concentration of PCB reported for WS6/0-0.1 (12 mg/kg) exceeded the HIL(A) of 10 mg/kg.

6.5 Groundwater Monitoring

The following sections summarise results of the groundwater monitoring undertaken at the Site during May 2009.

6.5.1 Inferred Groundwater Flow Patterns

The groundwater monitoring well locations (co-ordinate MGA) and reduced levels (mAHD) were surveyed by a qualified surveyor from Lawrence Group Pty Ltd on 29 May 2009. The survey results were combined with the groundwater standing levels recorded by GHD on 15 May 2009 to develop an inferred groundwater flow direction, using mapping and contour software. The groundwater contours produced indicated that the inferred groundwater flow across the Site was likely to be in a general east to south east direction. The groundwater contour plot has been included as **Figure 3** (**Appendix A**). The groundwater plotting also indicated that there was likely two distinct aquifer types at the site. The first is a 'perched' aquifer within the fill material located in and around the in filled creek (GW1, BH4 and BH5) and the second is a deeper shale rock aquifer (GW4).

6.5.2 Field Parameters

Field measurements of physical water quality parameters were monitored during purging and sampling of the groundwater from the monitoring wells. The final field parameters of temperature, pH, Electrical Conductivity (EC), Dissolved Oxygen (DO) and reduction / oxidation potential (redox) at the time of sampling were recorded and are presented in **Table B** (**Appendix D**).

The field results for groundwater measurements indicated the following:

- Temperature ranged from 20.1 ^{o}C to 22.7 ^{o}C;
- pH values ranged from pH 5.46 to pH 7.16 (indicating groundwater to be mildly acidic to neutral);
- Redox values ranged from -129 to 187 mV (indicating manganese / iron reduction phase);
- The EC ranged from 177.6 µS/cm to 12,270 µS /cm, indicative of moderately saline water; and
- The DO generally indicated an oxygen-depleted environment with readings ranging from 0.59 ppm to 5.79 ppm.

No odours, stains or sheens were noted within the groundwater during sampling.

6.5.3 Metal Analytical Results

The majority of metal concentrations reported were below the ANZECCC 95% trigger value for the protection of freshwater aquatic ecosystems with the exception of the following metals in several of the samples including:

- Arsenic,
- Chromium;
- Copper;
- Nickel; and
- Zinc.

6.5.4 TPH / BTEX

Reported concentrations of TPH and BTEX compounds were below the laboratory PQL in all groundwater samples analysed with the exception of the TPH concentration in the $C_6 – C_9$ fraction in the sample collected from groundwater well GW1. The concentration reported in sample GW4 was 200 µg/L.

6.5.5 VOC

Concentrations of VOCs were below the laboratory PQL for all groundwater samples analysed with the exception of the sample collected from monitoring well GW1, which was installed in an inferred down gradient location of previous USTs. Sample GW1 reported Vinyl Chloride, Dichloroethene, Trichloroethene and Tetrachloroethene concentrations above the PQL. The Tetrachloroethene (PERC) concentration reported was 200 µg/L, which exceeded the ANZECC low reliability guideline of 70 µg/L.

6.5.6 Ammonia

In general, groundwater samples reported ammonia below the adopted criteria with the exception of groundwater samples collected from monitoring wells GW1 and GW4, which reported ammonia concentrations of 1.40 and 1.6 µg/L respectively. These concentrations marginally exceeded the ANZECC 95% trigger value of 0.9 µg/L.

6.6 Assessment of Quality Control Results

Analytical data for the soil and groundwater duplicate pairs, which were sampled and analysed during the investigation, are provided in **Tables D** and **E**.

6.6.1 Field Program Quality Control

Soils

Three soil blind duplicate pairs (AD2 and GW5, AD1 and WS8, AD2a and WS4) were analysed during the investigation. RPDs could not be calculated for cadmium, mercury,

TPH, BTEX and PCBs as the duplicate pairs reported concentrations less than the laboratory PQL in all samples.

For the remainder of analytes, data for the duplicate samples was within nominally acceptable values (+/- 30% for inorganic and +/- 50% for organics), with the following exceptions:

» AD2 and GW5: 67% for total PAH; and

» AD1 and WS8: 32% for chromium, 124% for B(a)P and 167% for total PAH.

These values may be attributed to the heterogenous nature of fill and soil materials, and in the case of chromium and B(a)P, the low analyte concentrations (i.e., a small difference in a low concentration give rise to an inflated RPD). In no case, do the reported differences cast doubt on whether or not the relevant guideline was exceeded.

Groundwater

One groundwater blind duplicate pair (AD1 and BH4) was analysed during the investigation. RPDs could not be calculated for arsenic, chromium, lead, mercury, TPH, BTEX and VOCs as both samples reported concentrations less than the laboratory PQL.

For the remainder of analytes, data for the duplicate pair was within nominally acceptable values (+/- 30% for inorganic and +/- 50% for organics), with the exception of copper, which reported a RPD value of 143%. The elevated RPD in this case may be attributed to the low concentrations reported (0.0030mg/L and 0.0005mg/L respectively) and does not case doubt on the integrity of the data as a whole.

6.6.2 Laboratory Program

The NATA certified laboratory used during the soil and groundwater investigation undertook internal quality assurance and quality control, which included the analysis of laboratory duplicate samples, matrix spikes, reference standards (laboratory control spikes) surrogate standards and method blanks. The results of the analyses indicated that the laboratory preparation of samples and the methods used were precise, accurate, reliable and reproducible for the sample matrix, and that the laboratories were obtaining results within their control limits (with the exception of some minor QC breaches) for the period during which the samples were analysed.

The meeting of the DQO's for the project in terms of quality control data and resultant acceptance of laboratory data indicated that the data set generated for the current investigation was suitable for use.

Overall, the assessment of the field and laboratory QA / QC results indicated that the precision of the data was of an acceptable quality upon which to draw conclusions regarding the environmental condition of the site at the time of the investigation.

7. Discussion and Conclusions

Based on the findings of the current investigations and the limitations provided in **Section 8**, GHD makes the following conclusions.

- Some fragments of potentially asbestos bearing fibro were observed in the vicinity of the unsealed smoking area, however no asbestos was observed within the fill matrix. Although widespread asbestos impact was not identified, the presence of minor asbestos in fill material cannot be completely discounted.
- Fill material present along the eastern boundary appeared to largely comprise re worked materials and did not appear to be subject to widespread chemical contamination.
- The former creek appeared to have been filled with poorly compacted fill material, perched groundwater was present in this area, potentially creating a preferential pathway for any contaminants.
- In general, concentrations of PCBs in soils were less than the PQL with the exception of PCBs in soil in the vicinity of the cooling stations. The impact may be associated with localised spills (the area is between the cooling towers and the transformers). Additional deeper samples were analysed from this location to delineate the impact vertically. A sample collected from 0.7 m below the ground surface reported PCBs below the laboratory PQL further indicating the impact is localised. PCBs are not particularly soluble and as such do not readily migrate into groundwater. Groundwater samples analysed did not report PCBs in groundwater. Soils impacted by PCBs will require removal and off site disposal as Scheduled Waste prior to redevelopment of the Site.
- Soil and groundwater sampling undertaken in the vicinity of the former USTs (location identified by Yong Choi), did not indicate widespread hydrocarbon contamination however, GHD notes that there are some uncertainties with respect to the former USTs regarding former locations eg, whether the tanks have been removed, abandoned or remediated. As such, the potential that residual contamination exists as result of the former USTs and associated infrastructure cannot be completely discounted. In order to provide a greater degree of certainty further investigations are recommended in the vicinity of the former USTs. Works may include use of ground penetrating radar to assess whether tanks remain in-situ.
- Metal concentrations reported in soils were generally below the selected Site health investigation levels with the exception of arsenic in the near surface sample at location WS6 and chromium in near surface samples collected from location WS5 and WS6. The concentrations of arsenic and chromium at these locations appear to be associated with the fill material. It is considered that impacts in the fill in these locations could be effectively remediated via excavation and appropriate off-site disposal prior to any future redevelopment works. GHD notes that typically redevelopment of a Site involves the excavation of large quantities of material for

basements and building footings, as such any soil contamination would likely be removed and disposed of off site (in accordance with the NSW Waste Guidelines) from the Site during this process.

» Arsenic, cadmium, copper, nickel and zinc concentrations reported for several soil samples exceeded relevant PBILs. The concentrations of metals exceeding the PBILs (particularly in the near surface soils) may have potential implications for any landscaped/garden areas associated with a possible future residential redevelopment of the Site (however existing vegetation did not exhibit undue signs of distress). While some metal concentrations may have the potential to have an adverse impact on plant species, they are generally not considered likely to impact the Site's overall suitability for a possible future residential redevelopment.

» Metal concentrations in groundwater are considered fairly typical of background concentrations in urban areas, however the presence of chromium in a number of soil samples and in the groundwater may indicate a potential source exists on the Site. GHD notes that chromium is frequently used as a component in dyes.

» One groundwater well (located in the centre of the site in the vicinity of the USTs) reported concentrations of the solvent PERC and other associated breakdown products such as vinyl chloride. GHD notes that PERC are typically used in dry cleaning processes. The results indicated that solvents have been used on the Site and have migrated through the soil profile into the groundwater. GHD notes that VOCs were only reported in one of the five groundwater wells. GHD recommends that soil vapour sampling be undertaken to identify the source of the VOCs in soil. Such contamination can normally be effectively remediated and / or disposed of off-site.

» Sampling in the inferred location of one of the former incinerators was not possible owing to the presence of an occupied building. GHD recommends that investigations be undertaken in this area once the Site is unoccupied and the buildings have been removed.

GHD notes that in general, contaminant concentrations reported during the current investigation do not indicate widespread, gross contamination in the Site's soils however, it must be noted that the sampling pattern and density adopted does not comply with the EPAs minimum sampling requirements. The program of sampling was targeted towards areas of potential contamination selected after review of previous reports and consultation with client representatives.

Sampling was limited to those areas not occupied by operational Site buildings during the investigation which occupy a substantial area of the Site (GHD were not able to access these to undertake intrusive investigations). In particular, GHD notes that there is a potential for contamination to be present in soil and groundwater beneath Building 1 (**Figure 2**) as it is was constructed post 1960 after the Site had been operational for approximately 40 years. As such additional sampling beneath the footprint of the building is recommended once manufacturing at the Site ceases.

In conclusion, the presence of VOCs, ammonia and chromium in groundwater and PCBs in one soil sampling location indicated that the Site would not currently be

considered suitable for residential re development. Further investigations would be required to assess the significance of this impact. Further works may comprise soil and vapour sampling and additional groundwater investigations. These works would be required prior to establishing a remedial strategy to ensure the Site may be considered suitable (from a contamination perspective) for redevelopment (if possible residential).

8. Limitations

This report is confidential and:

(i) has been prepared by GHD for (Pacific Brands);

(ii) may only be used and relied upon by the client;

(iii) must not be copied to, used by or relied upon by any person other than the client; and

(iv) may only be used for the purpose of (assessing the potential for gross, widespread contamination to exist at the Site, which may pose restrictions to future redevelopment of the Site) (and must not be used for any other purpose).

All results, conclusions and recommendations presented should be reviewed by a competent person, with experience in environmental investigations, before being used for any other purpose.

GHD accepts no liability for use of, interpretation of or reliance upon this report by any person or body other than the client. Third parties must make their own independent inquiries.

This report should not be altered amended or abbreviated, issued in part or issued incomplete without prior checking and approval by GHD. GHD accepts no liability that may arise from the alteration, amendment, abbreviation or part-issue or incomplete issue of this report. To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by GHD and this report are expressly excluded (save as agreed otherwise with the client).

The scope of works was necessarily limited and was adopted to provide an indication of the nature and extent of soil contamination (if any) at the Site, but does not conform to the requirements of a NSW EPA compliant site assessment. The extent of sampling has been targeted towards areas where contamination is considered to be most likely based on information provided by the client and regulatory information sources. This approach maximises the probability of identifying contaminants; however, it may not identify contamination that occurs in unexpected locations or from unexpected sources. Soil and groundwater contamination is often highly variable, and it is possible that the contamination data used for the assessment may not reflect the conditions that may be encountered elsewhere on-site. The accuracy with which the sub-surface conditions have been characterised depends on the frequency and methods of sampling and the uniformity of sub-surface conditions and is therefore limited by the scope of works undertaken.

Site Conditions may change after the date of this Report. GHD shall bear no liability in relation to: (i) any change to site conditions after the date of this report; and/or (ii) any failure to update this report to account for any such change.

The information contained herein is based partly on third party information and data, for which GHD provides no assurances.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope and limitations defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, GHD reserves the right to review the report in the context of the additional information.

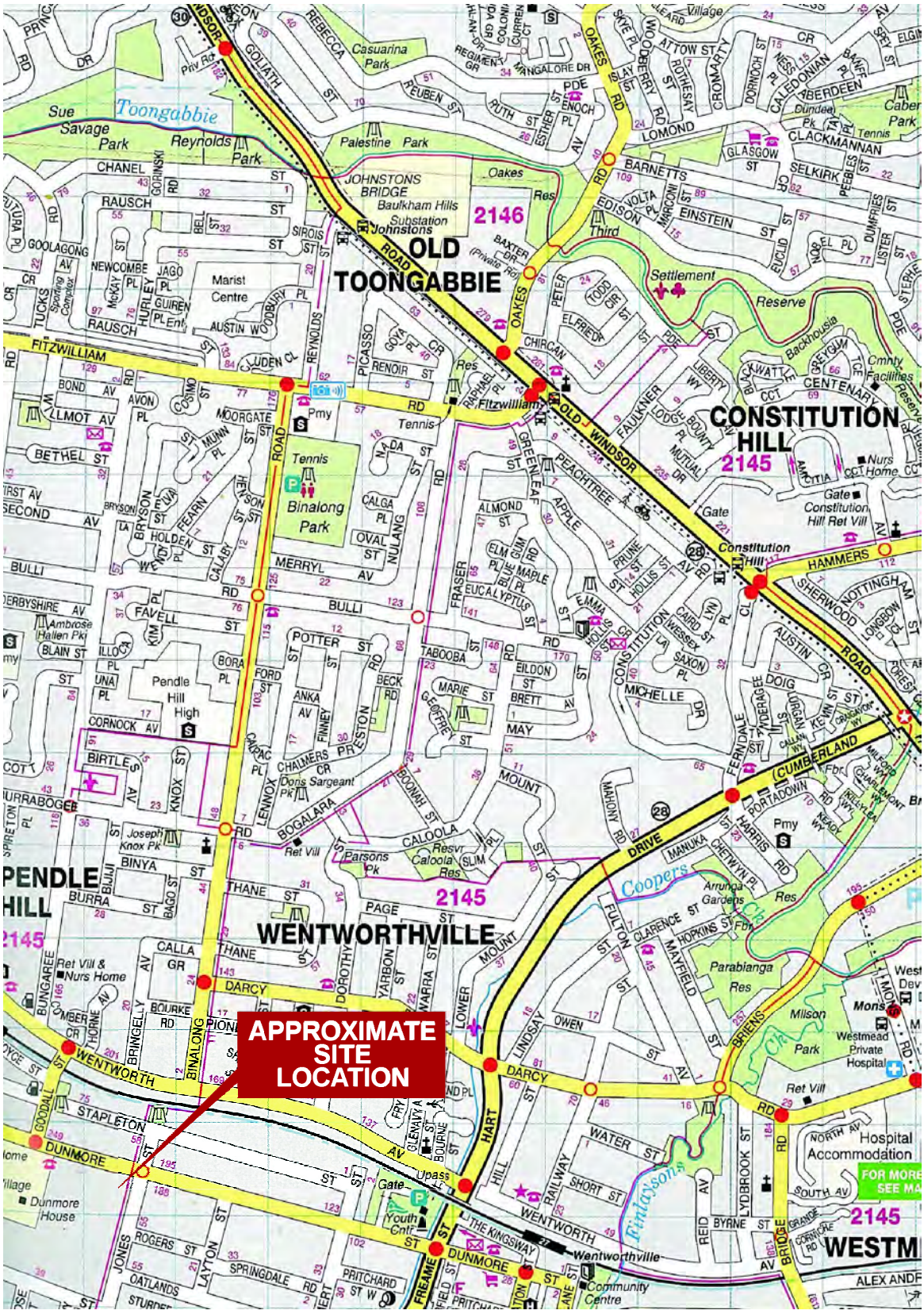
Appendix A

Figures

Figure 1: Site Location

Figure 2: Site Layout with Potential Sources and Sampling Locations

Figure 3: Inferred Groundwater Flow Direction



Source: Site location plan obtained from UBD Sydney City and Surrounds (Universal Publishers Pty Ltd 2006)

Pacific Brands
Contamination Assessment, 190 Dunmore Street, Wentworthville

job no 21-18504
file ref 21-18504Fig1.cdr

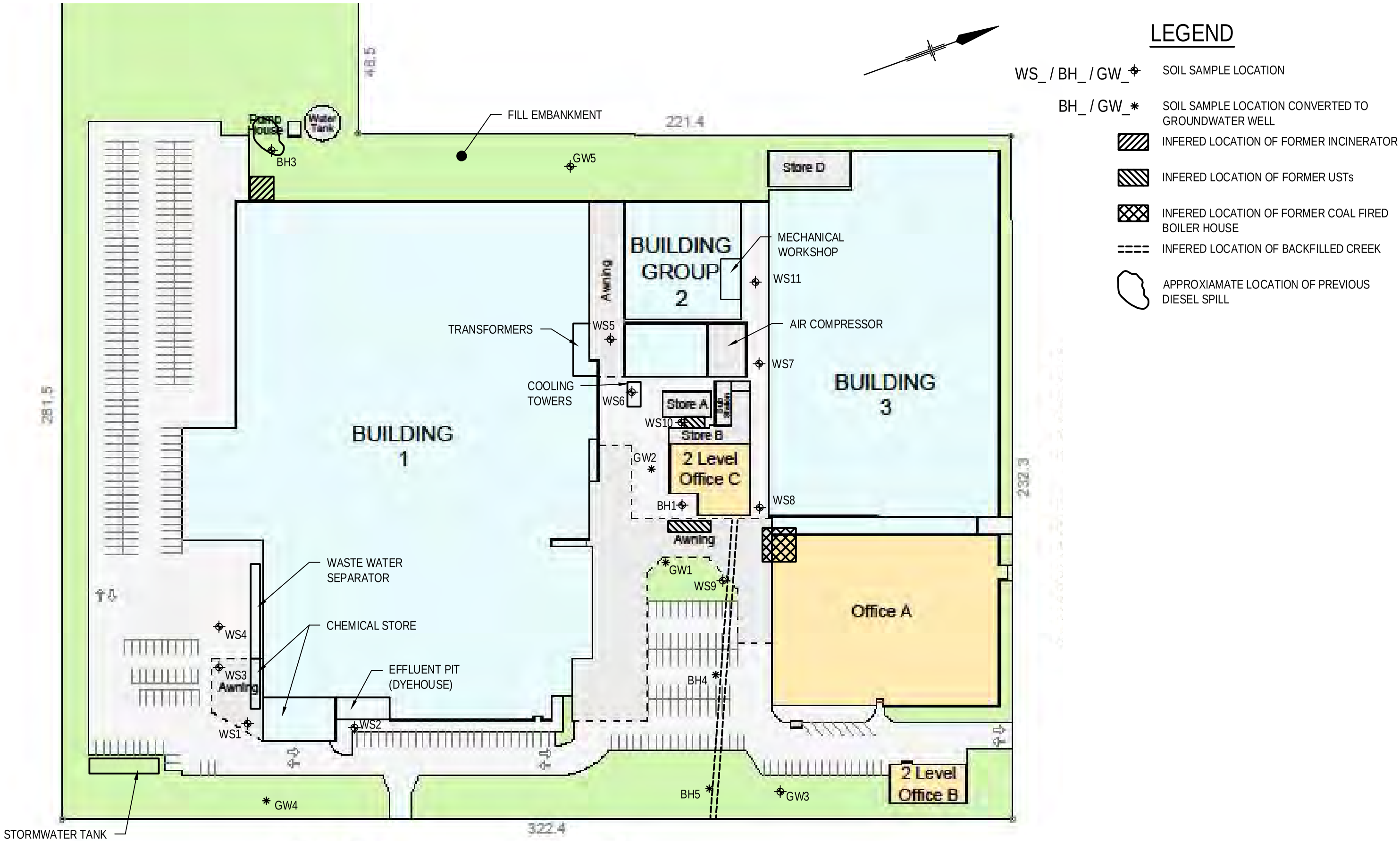
CLIENTS | PEOPLE | PERFORMANCE

Site Location

Date | May 2009

Figure 1

10 Bond Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au



LEGEND

- WS_ / BH_ / GW_ ⌖ — SOIL SAMPLE LOCATION
- BH_ / GW_ ✳ — SOIL SAMPLE LOCATION CONVERTED TO GROUNDWATER WELL
- INFERED LOCATION OF FORMER INCINERATOR
- INFERED LOCATION OF FORMER USTs
- INFERED LOCATION OF FORMER COAL FIRED BOILER HOUSE
- INFERED LOCATION OF BACKFILLED CREEK
- APPROXIAMATE LOCATION OF PREVIOUS DIESEL SPILL

DRAWING SOURCE: REALSERVE Ref. 34610BB REV 0

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Checked	Approved	Date
A	PRELIMINARY ISSUE		S.B.			

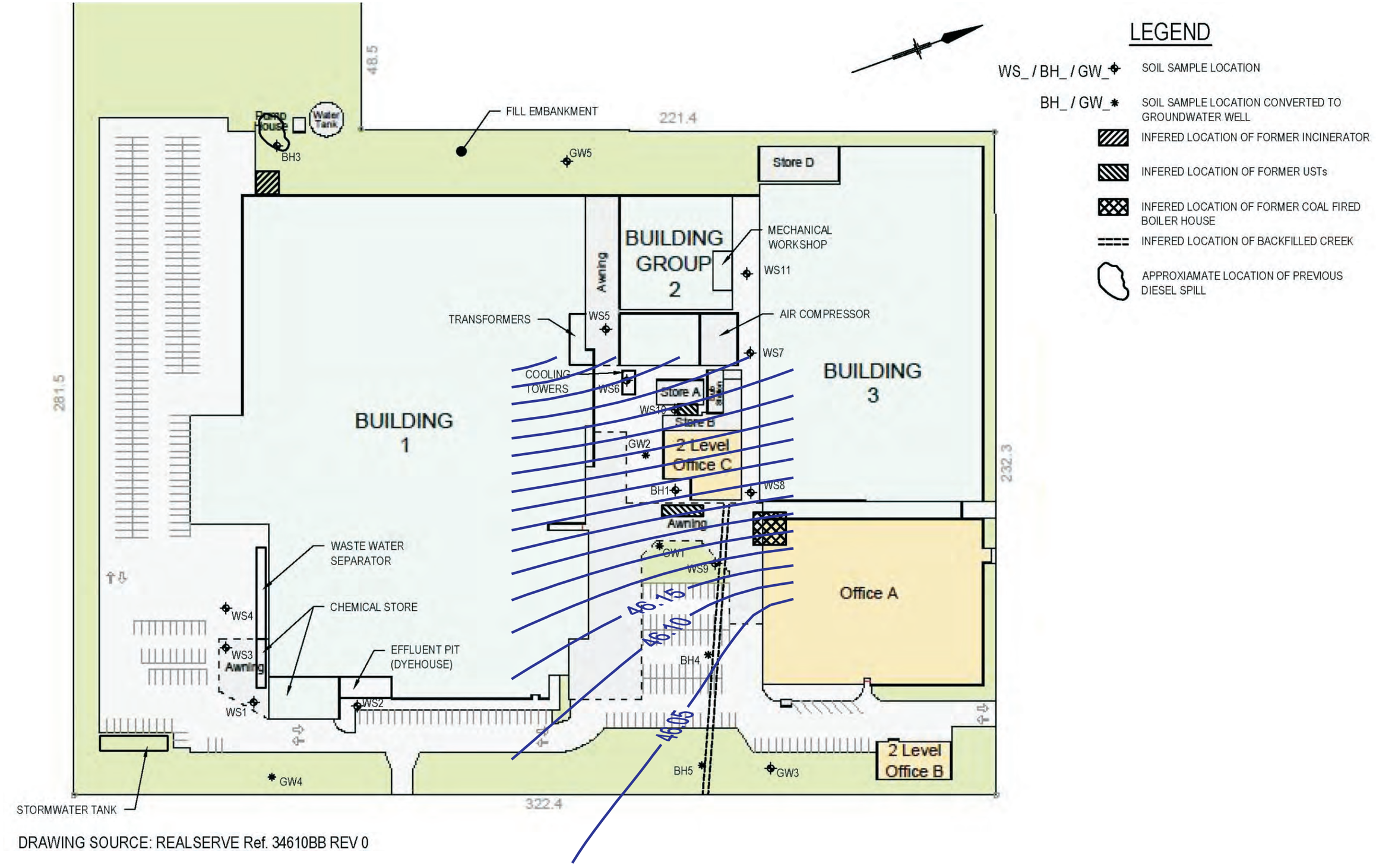
GHD CLIENTS | PEOPLE | PERFORMANCE
10 Bond Street, Sydney NSW 2000 Australia
T 61 2 9239 7100 F 61 2 9239 7199
E sydmail@ghd.com.au W www.ghd.com.au

Drawn	S.BEATON	Designed	
Drafting Check		Design Check	
Approved			
Date			
Scale	N.T.S.	This Drawing must not be used for Construction unless signed as Approved	

Client **PACIFIC BRANDS**
Project **21-18504**
Title **SITE LAYOUT & SAMPLING LOCATION**

Original Size **A3** Drawing No: **FIGURE 2** Rev: **A**

Plot Date: 29 May 2009 - 3:06 PM Plotted By: Simon W. Beaton , Sydney (Bond) Cad File No: G:\21\18504\CADD\Drawings\RGURE 2.dwg



DRAWING SOURCE: REALSERVE Ref. 34610BB REV 0

GHD CLIENTS |PEOPLE| PERFORMANCE

Pacific Brands
Contamination Assessment - 190 Dunmore Street Wentworthville

Groundwater Contour Plot

Date | April 2009 Scale | As shown

job no | 21-18504
file ref | 21-18504.cdr

Figure 3

10 Bond Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7194 **E** sydmail@ghd.com.au **W** www.ghd.com.au

Appendix B

Supplementary Phase 1 Information

Print Close page

Search results

Your search for: LGA: Holroyd City Council

Matched 3 notices relating to 1 site.

Suburb	Address	Site Name	Notices related to this site
Merrylands	Corner Walpole and Peel Street	Merrylands Substation PCB Storage	3 former

Page 1 of 1

26 May 2009

Print Close page

Search results

Your search for: Suburb - wentworthville

matched

2 licences (with applications or notices matching your search)

plus 4 notices (where no licence is available online. See faq)

Document number	Name	Address	Status/Notice type
6266	BORAL RECYCLING PTY LIMITED licence summary	GREYSTANES ROAD SOUTH WENTWORTHVILLE 2145	Surrendered
1563	HOLROYD CITY COUNCIL licence summary	DUNMORE STREET WENTWORTHVILLE 2145	Surrendered
010404	HAMPSON PATHOLOGY PTY LTD notice summary	9 WATER ST WENTWORTHVILLE 2145	S 80 Surrender Licence
1005535	JAMES HARDIE WINDOWS PTY LIMITED notice summary	PO BOX 327 WENTWORTHVILLE 2145	S 80 Surrender Licence
010037	JOSEPH NADER notice summary	145 WENTWORTH AVENUE WENTWORTHVILLE 2145	S 58 Licence Variation
010144	PACIFIC FABRICS notice summary	DUNMORE & JONES STREETS WENTWORTHVILLE 2145	S 80 Surrender Licence

Page 1 of 1

28 May 2009

Print Close page

Licence summary

Your search for: Suburb - Wentworthville

Summary of Licence No: 1563

Licence holder: HOLROYD CITY COUNCIL

Premises: WENTWORTHVILLE SWIMMING CENTRE
DUNMORE STREET WENTWORTHVILLE 2145
LGA: Holroyd Catchment: Sydney Coast-Georges River

Administrative fee: $475.00

Status of licence: Surrendered

Licence type: Premises

Activity type: Miscellaneous Licensed Discharge to Waters (at any time)

Licence review: Completed 08 Aug 01

Applications

Number	Application type	Current status	Date received
140675	Licence Surrender	Approved	24 Jul 01

Notices

Number	Issue Date	Notice type
1010612	03 Sep 01	S 80 Surrender Licence
008993	01 Feb 00	S 58 Licence Variation

Annual Return Information

Start date	End date	Date received	Non-compliance	LBL data
01 Mar 01	03 Sep 01	01 Nov 01	No	n/a
01 Mar 00	28 Feb 01	08 Mar 01	No	n/a

28 May 2009

Approval of the Surrender of a Licence

Section 80(1) Protection of the Environment Operations Act 1997

HOLROYD CITY COUNCIL,
ACN/ARBN 20 661 226 966,
PO BOX 42 ,
MERRYLANDS NSW 2160

Attention: Mr. KEVIN LYNCH

Notice Number: 1010612
File Number: 500967A1

Date: 03-Sep-2001

Dear Licensee,

APPROVAL OF THE SURRENDER OF A LICENCE

BACKGROUND

(a) The following licensee(s):

HOLROYD CITY COUNCIL

20 661 226 966

applied to the Environment Protection Authority (EPA) to surrender the licence 1563 The EPA received the application on 24-Jul-2001.

APPROVAL OF THE SURRENDER OF A LICENCE

1. The surrender of licence 1563 is approved.

2. The approval of the surrender is subject to the following conditions:

a) The licensee must provide the EPA with an Annual Return in relation to compliance with the conditions of licence number 1563 during the period beginning on the Licence Anniversary Date and ending on the date that the licence surrender of the licence takes effect as set out in paragraph 3 below.

b) The Annual Return must be provided to the EPA in accordance with the conditions of the licence, the surrender of which this notice approves.

c) The content and form of the Annual Return must be in accordance with those licence conditions.

d) The Annual Return must be signed in accordance with those licence conditions.

Approval of the Surrender of a Licence

Section 80(1) Protection of the Environment Operations Act 1997

3. The surrender of the licence does not operate:

   (a) until the period within which an appeal under the Act can be lodged against the conditions of this approval (ie 21 days from the date of this notice) has expired without an appeal being lodged, or

   (b) if an appeal is lodged within that period, until the Land and Environment Court confirms the decision or the appeal is withdrawn, or

   (c) until the licensee notifies the EPA in writing that no appeal is to be made against the decision, whichever first occurs.

4. If no appeal is going to be made against the conditions of this approval please notify the EPA in writing as soon as possible. Notifications should be sent to:

Attention: Manager Sydney Industry

PO Box 668

Parramatta NSW 2124

This notice is issued under section 80(1) of the Protection of the Environment Operations Act 1997.

. . . . . .

Ms Juanita Croft

Principal Officer Sydney Industry

Sydney Industry

(by Delegation)

Approval of the Surrender of a Licence

Section 80(1) Protection of the Environment Operations Act 1997

RELEVANT INFORMATION:

No fees are refundable on the surrender of a licence (s.80 of the Protection of the Environment Operations Act 1997).

On the date that the surrender of your licence takes effect the current licence fee period comes to an end. However, the surrender of your licence does not affect your liability to pay fees owing to the EPA for that licence fee period or for any earlier licence fee period.

If you have not already paid the administrative fee for the licence fee period which has just come to an end on the surrender of your licence you must still do so. Please note that the administrative fee for a licence fee period must be paid no later than 60 days after the beginning of that licence fee period. (cl. 29 of the Protection of the Environment Operations (General) Regulation 1998)

Any load-based fees payable in relation to the licence fee period ending on the surrender of the licence must be paid no later than 60 days after the surrender of the licence. (cl.31 of the Protection of the Environment Operations (General) Regulation 1998)

The reporting period (A3) on Annual Return should be filled in to reflect the appropriate dates beginning on the Licence Anniversary Date and ending on the date that the licence surrender of the licence takes effect as set out in paragraph 3 above. The completed Annual Return should be sent by registered post no later than 60 days from the end of the reporting period to:

Regulation Administration Unit

NSW EPA

PO Box A290

Sydney South NSW 1232

Print Close page

Notice summary

Your search for: LGA - HOLROYD

Summary of Notice No: 010037

Organisation:	JOSEPH NADER
Premises:	145 WENTWORTH AVENUE WENTWORTHVILLE 2145
	LGA: HOLROYD
Issue date:	07 Apr 00
Notice type:	S 58 Licence Variation

26 May 2009

N010037

Notice No: 010037 Issued: 07-Apr-2000
Notice Type: POEO S.58 VARIATION XX TRANS LICENCE
Premise: JOSEPH NADER
WENTWORTHVILLE 2145
Industry: WASTE TRANSPORTER-HAZARDOUS/INDUSTRIAL
Local Gov: HOLROYD ML
Catchment: SYDNEY COAST-GEORGES RVR
.....
Variation of licence 007697

Section 58(5) Protection of the Environment Operations Act 1997

Registered Post

NADER; JOSEPH
145 WENTWORTH AVENUE
WENTWORTHVILLE NSW 2145

Our ref: N 010037 L 007697
007697/B01

Date: 7 April 2000

NOTICE OF VARIATION OF LICENCE 007697

BACKGROUND

(a) NADER; JOSEPH ("the licensee") is the holder of environment protection licence 007697 ("the licence") under the Protection of the Environment Operations Act 1997 ("the POEO Act").

(b) This notice revokes that part of the licence that limits by date the authorisation given to the licensee to act as an authorised contractor. The effect of this is to remove the clause containing the sunset date of 01-Apr-2000 so that the licensee can continue to act as an authorised contractor beyond that date. This variation takes effect as and from 01-Apr-2000.

(c) The note on the licence that stated that it would be necessary, if the licensee wished to continue acting as an authorised contractor beyond the sunset date, to apply in writing to the EPA should therefore be disregarded.

(d) This notice does not make any other change to the licence.

VARIATION OF LICENCE 007697

By this notice the EPA varies licence 007697 by :-

1. Revoking the clause, which appears under that section of the licence entitled "Monitoring and Reporting of Waste Transported by an Authorised Contractor" and which states "Conditions (30) to (56) apply on and from 1 October 1999 to 1 April 2000."

Notes:

a) Except, as provided by s.84(2) of the POEO Act, each variation begins to operate 21 days from the date of this notice, unless another date is specified in this notice.

b) Section 84(2) provides that a variation to a licence does not

operate until :

* 21 days after the notice of the decision to vary the licence is given to the licensee, or

* if an appeal against the decision is lodged, until the Land and Environment Court determines the appeal, or

* the licensee notifies the EPA in writing that no appeal is to be made against the decision to vary the licence,

which ever first occurs.

This notice is issued under section 58(5) of the POEO Act.

Paul Rutherford
Manager Hazardous Waste Regulation
SYDNEY ML
(by Delegation)

INFORMATION ABOUT THIS NOTICE:

* Section 287 of the POEO Act enables appeals to be made in connection with decisions about a licence application within 21 days after the notice of the decision is given to the applicant.

Print Close page

Notice summary

Your search for: LGA - HOLROYD

Summary of Notice No: 010144

Organisation:	PACIFIC FABRICS
Premises:	DUNMORE & JONES STREETS WENTWORTHVILLE 2145
	LGA: HOLROYD
Issue date:	03 May 00
Notice type:	S 80 Surrender Licence

26 May 2009

N010144

Notice No: 010144 Issued: 03-May-2000
Notice Type: POEO S.80 SURRENDER OF TRANS.LICENCE
Premise: PACIFIC FABRICS
WENTWORTHVILLE 2145
Industry: FUEL BURNING EQUIPMENT
Local Gov: HOLROYD
Catchment: SYDNEY COAST-GEORGES RVR

.....

Approval of the surrender of a licence

Section 80(2) Protection of the Environment Operations Act 1997

Registered Post

BONDS INDUSTRIES LIMITED
190 DUNMORE STREET
WENTWORTHVILLE NSW 2145

Our ref: N 010144 L 001101
500558/B01

Date: 3 May 2000

APPROVAL OF THE SURRENDER OF A LICENCE

BACKGROUND

(a) BONDS INDUSTRIES LIMITED ("the licensee") applied to the Environment Protection Authority ("EPA") to surrender the licence 001101.

APPROVAL OF THE SURRENDER OF A LICENCE

The surrender of licence 001101 is approved.

This notice is issued under section 80(2) of the Protection of the Environment Operations Act 1997.

The surrender of the licence takes effect when this notice is given to the licensee.

The approval of the surrender is subject to the following conditions :-

1. If you have not already done so, you must provide the EPA with a Certificate of Compliance in relation to compliance with the conditions of your licence during the period beginning on the date your licence was granted or, if it was a renewed licence, the date of its last renewal and ending on the date of surrender of the licence.

2. The Certificate must be provided to the EPA as specified in accordance with your conditions of the licence, the surrender of which this notice approves.

3. The content and form of the Certificate must be as set out in accordance with your licence conditions.

4. The Certificate must be signed as set out in your licence conditions.

.....
Michael O'Flynn
A/Manager Sydney Local Government
SYDNEY
(by Delegation)

RELEVANT INFORMATION :

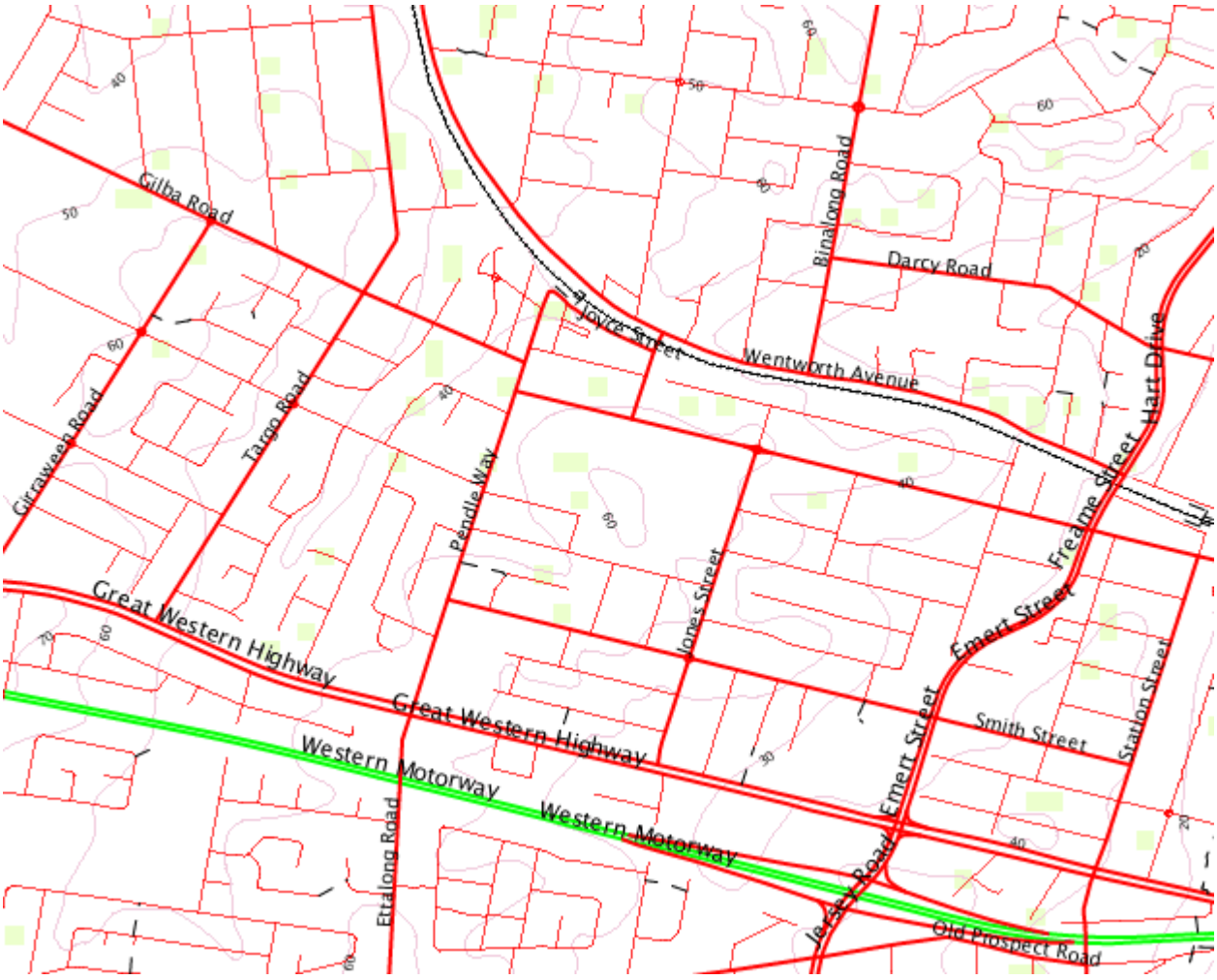
* No fees are refundable on the surrender of a licence (s.80 of the Protection of the Environment Operations Act 1997).

* On the date that the surrender of your licence takes effect the current licence fee period comes to an end. However, the surrender of your licence does not affect your liability to pay fees owing to the EPA for that licence fee period or for any earlier licence fee period.

190 Dunmore Street, Wentworthville

Map created with NSW Natural Resource Atlas - http://nratlas.nsw.gov.au

Thursday, May 28, 2009



0 2 Km

Legend

Symbol	Layer	Custodian
	Cities and large towns renderImage: Cannot build image from features	
Cowra	Populated places renderImage: Cannot build image from features	
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	
	Topographic base map	

Appendix C

Summary Results Tables

Table A - Soil Summary Analytical Results
2118504 - Pacific Brands - Contamination Assessment - 190 Dunmore Street Wentworthville NSW
G:\21\18504\Tech\[Summary results (Soil).xls]Soil RPDs

Sample Information			Metals								TPH					BTEX				PAH		PCBs	Asbestos
Sample ID	Sample Depth (m)	Sample Date	Arsenic (total) mg/kg	Cadmium mg/kg	Chromium (total) mg/kg	Copper mg/kg	Lead mg/kg	Mercury (inorganic) mg/kg	Nickel mg/kg	Zinc mg/kg	Total Petroleum Hydrocarbons (TPH) C6 - C9 mg/kg	C10 - C14 mg/kg	C15 - C28 mg/kg	C29 - C36 mg/kg	TPH C10-C36 mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	B[a]P mg/kg	Total PAH mg/kg	Total PCB mg/kg	Asbestos Fibre
PQL[1]			4	0.5	1	1	1	0.1	1	1	25	50	100	100	-	0.5	0.5	1	3	0.05	-	0.1	0.1g/Kg
HIL(A) [3]			100	20	100[6]	1,000	300	15	600	7,000	65[2]	N/A			1,000 [2]	1[2]	130[2]	50[2]	25[2]	1	20	10	N/A
HIL(D) [4]			400	80	400[6]	4,000	1,200	60	2,400	28,000	65[2]	N/A			1,000 [2]	1[2]	130[2]	50[2]	25[2]	4	80	40	N/A
PBILs [5]			20	3	400	100	600	1	60	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GW1	0-0.2	6-May-09	15	ND	10	55	35	ND	7	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.08	0.68	ND	None
GW1	2.8-3.0	6-May-09	7	**14**	18	**390**	170	ND	20	**1700**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
GW2	0.2-0.4	6-May-09	5	ND	11	47	19	ND	43	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
GW2	1.0-1.2	6-May-09	10	ND	8	38	25	ND	13	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
GW3	0-0.2	6-May-09	17	ND	4	39	17	ND	4	31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
GW4	0-0.2	5-May-09	9	ND	8	37	26	ND	26	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	4.3	ND	None
GW5	0-0.2	6-May-09	9	ND	12	48	18	ND	32	86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	None
BH1	0.1-0.3	6-May-09	18	ND	10	26	20	ND	20	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
BH4	0.1-0.3	6-May-09	**39**	ND	13	49	23	ND	**64**	77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
BH4	3.8-4.0	6-May-09	15	ND	14	77	180	ND	29	**310**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
BH5	0-0.2	6-May-09	**80**	ND	69	42	45	ND	**66**	96	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	1.4	ND	None
BH5	4.8-5.0	6-May-09	10	ND	4	34	20	ND	3	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS1	0.6-0.7	14-May-09	6	ND	5	43	15	ND	4	36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS2	0.3-0.4	20-May-09	5	ND	6	21	12	ND	14	63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
WS3	0.2-0.3	14-May-09	6	ND	25	42	14	ND	27	71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	None
WS3	1.3-1.4	14-May-09	8	ND	19	34	180	ND	9	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS4	0.3-0.4	20-May-09	5	ND	17	36	23	ND	20	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS5	0.2-0.3	20-May-09	ND	0.6	**170**	35	11	ND	**79**	**240**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS6	0-0.1	20-May-09	**200**	**3.1**	**3300**	**520**	270	0.4	**75**	**2300**	ND	ND	180	100	280	ND	ND	ND	ND	0.06	0.56	**12**	None
WS6	0.2-0.3	20-May-09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
WS6	0.7-0.8	20-May-09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-
WS7	0.2-0.3	14-May-09	ND	ND	2	11	5	ND	1	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
WS8	0.2-0.3	14-May-09	7	ND	11	11	12	ND	1	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.47	ND	None
WS9	0-0.1	20-May-09	7	0.6	22	45	45	ND	21	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	None
WS9	0.6-0.7	20-May-09	10	ND	10	39	39	ND	9	73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	-
WS10	0-0.1	20-May-09	14	ND	18	62	13	ND	40	49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
WS11	0.2-0.3	14-May-09	8	ND	5	25	9	ND	2	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
BH3	0-0.1	20-May-09	ND	ND	12	43	18	ND	45	61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	None
BH3	0.5-0.6	20-May-09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	None
BH3	0.9-1.0	20-May-09	19	ND	6	19	12	ND	1	6	ND	ND	110	ND	110	ND	ND	ND	ND	ND	ND	ND	-
Blind Duplicates																							
AD2 (GW5/0-0.2)	0-0.2	6-May-09	8	ND	9	43	17	ND	35	89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
AD1 (WS8/0.2-0.3)	0.2-0.3	14-May-09	9	ND	8	13	13	ND	1	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3	5.2	ND	-
AD2a (WS4/0.3-0.4)	0.3-0.4	20-May-09	5	ND	18	37	26	ND	22	65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-

N/A No NSW EPA Endorsed Criteria
- Sample Not Analysed
ND Sample Reported Concentration <PQL

[1] Primary Laboratory Practical Quantitation Limit (PQL)
[2] Sensitive Land Use Threshold Concentration, *Guidelines for Assessing Service Station Sites* (NSW EPA, 1994)
[3] Health Investigation Level 'A' Residential with gardnes includes children's day care centres, preschools and primary schools, or town houses and villas. *(Assessment of Contamination) Measure (NEPC, 1999).*
[4] Health Investigation Level 'D' Residential with minimum opportunities for soil access: includes dwellings with fully and permanantly paved yard space such as high rise apartments and flats. National Environment Protection (Assessment of Contamination) Measure (1999).
[5] Provision Phytotoxicity - Based Investigation Levels (PBILs)
[6] Guidelines refer to Chromium (VI) only

Bold	Exceeds HILA
Bold	Exceeds HILD
Bold	Exceeds PBILs

Entered By: M.Goodwin
Checked By: A.Doran

Table B - Groundwater Field Parameters & Well Purging Details
2118504- Pacific Brands - Contamination Assessment - 109 Dunmore Street Wentworthville

G:\21\18504\Tech\[Summary Results (GW).xls]Field Parameters

Sample ID	Sampling Date	SWL (TOC) m	BOC (m)	Sampling Method	Purge Volume (L)	Dissolved Oxygen (ppm)	Electrical Conductivity (us/cm)	pH	Redox Potential (mV)	Temp (^{o}C)	Observations
Well Sample											
GW1	15-May-09	4.320	7.280	Disposable Bailer	2	2.72	4780	5.46	187	21.1	Minor grey brown cloud
GW2	15-May-09	1.955	3.810	Disposable Bailer	2	1.82	1440	6.08	134	21.7	Green brown stain
GW4	15-May-09	10.240	15.750	Disposable Bailer	20	5.79	12270	7.16	176	20.1	Grey brown cloud
BH4	15-May-09	4.995	8.260	Disposable Bailer	50	0.59	177.6	5.75	57	22.7	Cloudy / silty brown
BH5	15-May-09	4.960	8.350	Disposable Bailer	18	1.47	342	6.66	-129	21.0	Grey brown cloud.

TOC = Top of Casing
BOC = Depth of well measured from top of casing
SWL = Standing Water Level

Entered by: M.Goodwin
Checked by: A.Doran

Table C - Groundwater Summary Analytical Results

2118504 - Pacific Brands - Contamination Assessment - 190 Dunmore Street Wentworthville NSW

G:\21\18504\Tech\[Summary Results (GW).xls]GW Results

Sample Information		Metals								TPH					BTEX				VOC						sVOC				Phenol	
Sample ID	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	Total C10-C36	Benzene	Toluene	Ethylbenzene	total Xylenes	Vinyl Chloride	Trans 1,2 - dichloroethene	Cis 1,2 - dichloroethene	Trichloroethene	Tetrachloroethene	Total VOC	Naphthalene	Benzo(a)pyrene	Diethyl phthalate	Total sVOC	Phenol	Ammonia
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/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	ug/L	µg/L	µg/L	mg/L
PQL [1]		0.001	0.0001	0.001	0.001	0.001	0.0005	0.001	0.001	10	50	100	100	-	1	1	1	3	10	1	1	1	1	-	10	10	10	-	10	0.1
ANZECC Fresh 95% [2]		0.0240[5]	0.00020	0.00100[6]	0.0014	0.0034	0.00060	0.011	0.0080	N/A	N/A	N/A	N/A	N/A	950	180[4]	80[4]	625[4]	N/A	N/A	N/A	330[4]	70[4]	N/A	16.0	0.20[4]	1000[4]	N/A	320	0.9
Drinking Water Guidelines [3]		0.0070	0.00200	0.05000	2.0000	0.0100	0.00100	0.020	3.0000[7]	N/A	N/A	N/A	N/A	N/A	1	800	300	600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.01	N/A	N/A	N/A	0.50[7]
GW1	15-May-09	ND	0.0008	**0.0020**	**0.0040**	ND	ND	**0.0370**	**0.2000**	200	ND	ND	ND	ND	ND	ND	ND	ND	22	1.5	98	18	**200**	339.5	ND	ND	ND	ND	ND	**1.40**
GW2	15-May-09	0.0020	ND	**0.0020**	**0.0030**	0.0020	ND	0.0100	**0.0710**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30
GW4	15-May-09	**0.0180**	0.0002	ND	0.0010	ND	ND	**0.0520**	**0.0110**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	21	ND	**1.60**
BH4	15-May-09	ND	0.0002	ND	ND	ND	ND	**0.0160**	**0.1500**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30
BH5	15-May-09	ND	ND	ND	ND	ND	ND	ND	**0.0350**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30
Quality Control																														
Blind Duplicates																														
AD1	15-May-09	ND	0.0002	ND	0.0030	ND	ND	0.0160	0.1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30

N/A No NSW EPA Endorsed Criteria

\- Sample Not Analysed

ND Sample Reported Concentration <PQL

[1] Primary Laboratory Practical Quantitation Limit (PQL)

[2] ANZECC 2000, 95% Protection Level for Freshwater

[3] Australian Drinking Water Guidelines

[4] ANZECC low reliability guidelines

[5] Guidelines refer to Arsenic (III) only

[6] Guidelines refer to Chromium (VI) only

[7] Aesthetic drinking water guidelines

Bold Exceeds ANZECC Freshwater 95%

Bold Exceeds Drinking Water Guidleines

Entered By: M.Goodwin

Checked By: A.Doran

Table D - Soil Relative Percentage Difference Calculations
2118504 - Pacific Brands - Contamination Assessment - 190 Dunmore Street Wentworthville NSW

G:\21\18504\Tech\[Summary results (Soil).xls]Soil RPDs

Sample ID	Sample Depth (m)	Sample Date	Arsenic (total) mg/kg	Cadmium mg/kg	Chromium (total) mg/kg	Copper mg/kg	Lead mg/kg	Mercury (inorganic) mg/kg	Nickel mg/kg	Zinc mg/kg	Total Petroleum Hydrocarbons (TPH) C6 - C9 mg/kg	C10 - C14 mg/kg	C15 - C28 mg/kg	C29 - C36 mg/kg	TPH C10-C36 mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	B[a]P mg/kg	Total PAH mg/kg	Total PCB mg/kg
PQL[(1)]			4	0.5	1	1	1	0.1	1	1	25	50	100	100	-	0.5	0.5	1	3	0.05	0.1	0.1
Blind Duplicates																						
AD2	0-0.2	6-May-09	8	ND	9	43	17	ND	35	89	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	***0.05***	ND
GW5	0-0.2	6-May-09	9	ND	12	48	18	ND	32	86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	ND
RPDs (Dup.)			12	N/C	29	11	6	N/C	9	3	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	**67**	N/C
AD1 (WS8/0.2-0.3)	0.2-0.3	14-May-09	9	ND	8	13	13	ND	1	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	5.20	ND
WS8	0.2-0.3	14-May-09	7	ND	11	11	12	ND	1	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.47	ND
RPDs (Dup.)			25	N/C	**32**	17	8	N/C	0	29	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	**124**	**167**	N/C
AD2a (WS4/0.3-0.4	0.3-0.4	20-May-09	5	ND	18	37	26	ND	22	65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS4	0.3-0.4	20-May-09	5	ND	17	36	23	ND	20	48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
RPDs (Dup.)			0	N/C	6	3	12	N/C	10	30	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C

ND Sample Reported Concentration <PQL
N/C RPD not calculated where both duplicate pairs reported concentrations <PQL.
Italics One duplicate pair reported a concentration <PQL, half the PQL has been used to calculate the RPD

(1) Primary Laboratory Practical Quantitation Limit (PQL)

Bold RPD exceeds nominally acceptable limit of 30% for inorganics or 50% for organics.

Entered By: M.Goodwin
Checked By: A.Doran

Table E - Groundwater Relative Percentage Difference Calculations
2118504 - Contamination Assessment - 190 Dunmore Street Wentworthville NSW

G:\21\18504\Tech\[Summary Results (GW).xls]GW Results

Sample Information		Metals								TPH					BTEX					VOC								sVOC				
Sample ID	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	Total C10-C36	Benzene	Toluene	Ethylbenzene	total Xylenes	Vinyl Chloride	Trans 1,2 - dichloroethene	Cis 1,2 - dichloroethene	Trichloroethene	Tetrachloroethene	Total VOC	Naphthalene	Benzo(a)pyrene	Total sVOC	Phenol	Ammonia
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/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	mg/L
PQL [1]		0.001	0.0001	0.001	0.001	0.001	0.0005	0.001	0.001	10	50	100	100	-	1	1	1	3	10	1	1	1	1	-	10	10	-	10	0.10
Blind Duplicates																															
AD1	15-May-09	ND	0.0002	ND	0.0030	ND	ND	0.0160	0.1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30
BH4	15-May-09	ND	0.0002	ND	0.0005	ND	ND	0.0160	0.1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30
RPDs (Dup.)		NC	0	NC	**143**	NC	NC	0	0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0

- Sample Not Analysed
ND Sample Reported Concentration <PQL
NC RPD not calculated where both duplicate pairs reported concentrations <PQL.
Italics One duplicate pair reported a concentration <PQL, half the PQL has been used to calculate the RPD

[1] Primary Laboratory Practical Quantitation Limit (PQL)

Bold RPD exceeds nominally acceptable limit of 30% for inorganics or 50% for organics

Entered By: M.Goodwin
Checked By: A.Doran

Appendix D

Field Borehole Logs

SOIL BOREHOLE LOG

BOREHOLE No.: BH1

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground Level** TOTAL DEPTH (m): **1.3** DIAMETER (mm):

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0	SF	GS		BH1/0.1-0.3	N/A	0.00	**Fill** Sandy clay with gravels, orange and brown, moist	Blue metal and possible charcoals		0
	SF	GS		BH1/0.3-0.5						
1	SF	GS		BH1/0.8-1.0		0.80	**Fill** Clay with frequent ironstone gravels, red / brown			1
						1.30	**End of borehole at 1.3m** Refusal on obstruction			
2										2
3										3
4										4
5										5
6										6
7										7
8										8
9										9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
HA = Hand Auger
PT = Push Tube

Sample Type
A = Auger
SS = Split Spoon Sampler
GS = Grab Sample
SC = Sediment Core

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing (mAHD)
PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: BH3

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0	PCS	UDS		BH3/0-0.1		0.00	**GRASS**	Bitumen		0
							FILL Brown, silt, sand, mixed gravels & blue metal cobble < 50mm Ø			
						0.30	**FILL** Grey-black, silt, sand & ash, frequent mixed gravels < 10mm Ø	Ash		
	PCS	UDS		BH3/0.5-0.6						
						0.70	**CLAY** Grey-brown & orange-brown mottled, soft-firm, moist.	Possible hydrocarbon odour		
1	PCS	UDS		BH3/0.9-1		1.00	**End Of Hole (Residual)**			1
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: BH4

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): X-COORDINATE: Y-COORDINATE: TOTAL DEPTH (m): **8.2**

VERTICAL DATUM: **Ground Level** HORIZONTAL DATUM: DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Piezometer Details	Graphic Log	Depth (m)
0							Ground Surface				0
	SF	GS		BH4/0.1-0.3	N/A	0.00	**Fill** Sandy clay with gravels, red / brown and grey, moist	Blue metal and possible charcoals			
	SF	GS		BH4/0.4-0.6							
1	SF	GS		BH4/0.8-1.0		0.70	**Fill** Clay with some gravels, grey and brown, soft, moist to wet				1
2	SF	GS		BH4/1.8-2.0		1.50	**Fill** Sandy clay, red and brown, frequent gravels, moist, likely reworked				2
3	SF	GS		BH4/2.8-3.0							3
						3.20	**Fill** Sand and gravel, black, ash, slag and some clay inclusions, soft, wet				
4	SF	GS		BH4/3.8-4.0							4
5	SF	GS		BH4/4.8-5.0							5
6											6
						6.50	**Fill** Clay, some ash, sand and slag, grey and brown, soft, wet				
7											7
8						8.00	**Weathered Shale** Grey, tan , orange and brown, some clay				8
							End of borehole at 8.2m Desired depth				
9											9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: BH5

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

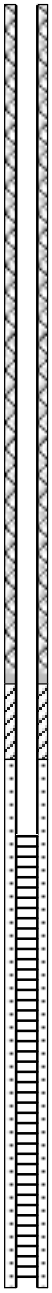
CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): X-COORDINATE: Y-COORDINATE: TOTAL DEPTH (m): **8.5**

VERTICAL DATUM: **Ground Level** HORIZONTAL DATUM: DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.
							Ground Surface	
0	SF	GS		BH5/0.0-0.2	N/A	0.00	**Fill** Silty sand with mixed gravels, occasional clay lenses, brown	
	SF	GS		BH5/0.3-0.5				
						0.60	**Fill** Silty sand with mixed gravels, increasing clay, grey / brown	
1	SF	GS		BH5/0.8-1.0				
						1.70	**Fill** Sandy clay, reworked, some gravels, orange, brown and grey	
2	SF	GS		BH5/1.8-2.0				
3	SF	GS		BH5/2.8-3.0				
4	SF	GS		BH5/3.8-4.0				
5	SF	GS		BH5/4.8-5.0				Metal wire at 4.8m
6	SF	GS		BH5/5.8-6.0				Glass at 5.8m
7						7.00	**Clay** Orange, brown and grey mottled, soft to firm, moist to wet	
8						8.50	**End of borehole at 8.5m** Desired depth	
9								

Piezometer Details



Graphic Log

Depth (m)

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: GW1

Page: **1 of 1**

CLIENT: **Pacific Brands** | JOB No.: **2118504** | COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** | COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** | LOGGED BY: **A Doran**

CONTRACTOR: **N/A** | EQUIPMENT: **Truck Mounted Drill Rig** | CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): | X-COORDINATE: | Y-COORDINATE: | TOTAL DEPTH (m): **8.5**

VERTICAL DATUM: **Ground Level** | HORIZONTAL DATUM: | DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.
							Ground Surface	
0	SF	GS		GW1/0.0-0.2	N/A	0.00	**Fill** Silty sand, brown, gravels and minor charcoal, moist	Asbestos fragment collected from surface
	SF	GS		GW1/0.3-0.5				
1	SF	GS		GW1/0.8-1.0				Large metal bolt, brick and glass at 0.9m
2	SF	GS		GW1/1.8-2.0		2.40	**Fill** Ash, sand and slag, light grey, charcoals present	
3	SF	GS		GW1/2.8-3.0		3.20	**Fill** Reworked sandy clay, light brown and brown, mixed gravels	
4	SF	GS		GW1/3.8-4.0		4.30	**Clay** Brown and tan	
5	SF	GS		GW1/4.8-5.0			**Weathered Shale** Tan and brown, some sand and clay	
6						5.30	**Weathered Shale** Grey, some clay, red ironstone lenses, moist	
7						7.00	**Shale** Grey, hard	
8						8.50	**End of borehole at 8.5m** Refusal on rock	
9								

Piezometer Details

Graphic Log

Depth (m)

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: GW2

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): X-COORDINATE: Y-COORDINATE: TOTAL DEPTH (m): **5.9**

VERTICAL DATUM: **Ground Level** HORIZONTAL DATUM: DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Piezometer Details	Graphic Log	Depth (m)
0					N/A		Ground Surface	Green / blue staining at surface, blue metal gravels			0
	SF	GS		GW2/0.2-0.4		0.00	**Fill** Sandy clay with gravels, brown, grey and orange, moist				
	SF	GS		GW2/0.5-0.7							
1	SF	GS		GW2/1.0-1.2		1.30	**Fill** Clay with gravels, grey and black, moist to wet				1
						1.70	**Clay** Grey and orange with brown mottles, firm to stiff, moist				
2	SF	GS		GW2/2.0-2.2							2
3	SF	GS		GW2/3.0-3.2							3
						3.40	**Clay / Weathered Shale** Tan and brown, shale and sandy clay, moist				
4	SF	GS		GW2/4.0-4.2							4
						4.50	**Shale** Grey, hard				
5											5
6						5.90	**End of borehole at 5.9m** Refusal on rock				6
7											7
8											8
9											9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

SOIL BOREHOLE LOG

BOREHOLE No.: GW3

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground Level** TOTAL DEPTH (m): **5.0** DIAMETER (mm):

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
	SF	GS		GW3/0.0-0.2	N/A	0.00	**Fill** Sandy clay, brown and orange, gravels, likely reworked			
	SF	GS		GW3/0.3-0.5						
1	SF	GS		GW3/0.8-1.0						1
2	SF	GS		GW3/1.8-2.0						2
3	SF	GS		GW3/2.8-3.0						3
4	SF	GS		GW3/3.8-4.0		4.20	**Clay** Sandy clay, orange and brown with red mottles, some ironstone			4
5						5.00	**End of borehole at 5.0m** Increasing shale			5
6										6
7										7
8										8
9										9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
HA = Hand Auger
PT = Push Tube

Sample Type
A = Auger
SS = Split Spoon Sampler
GS = Grab Sample
SC = Sediment Core

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing (mAHD)
PID = Photoionisation Detector

GHD MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: GW4

Page: **1 of 2**

CLIENT: **Pacific Brands** | JOB No.: **2118504** | COMMENCED: **5/5/09**

PROJECT: **Contamination Assessment** | COMPLETED: **5/5/09**

LOCATION: **Wentworthville, NSW** | LOGGED BY: **A Doran**

CONTRACTOR: **N/A** | EQUIPMENT: **Truck Mounted Drill Rig** | CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): | X-COORDINATE: | Y-COORDINATE: | TOTAL DEPTH (m): **15.5**

VERTICAL DATUM: **Ground Level** | HORIZONTAL DATUM: | DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Piezometer Details	Graphic Log	Depth (m)
							Ground Surface				
0	SF	GS		GW4/0.0-0.2	N/A	0.00	**Fill** Silty sand, brown, some intermixed grey and red mottled clay, minor gravels, moist				0
	SF	GS		GW4/0.3-0.5							
1	SF	GS		GW4/0.8-1.0							1
2	SF	GS		GW4/1.8-2.0							2
3	SF	GS		GW4/2.8-3.0							3
4	SF	GS		GW4/3.8-4.0		4.50	**Clay / Weathered Shale** Orange and brown sandy clay with red / brown weathered shale				4
5						5.20	**Shale** Intermittant bands of hard and soft shale, grey and moist				5
6											6
7											7
8											8
9											9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

MANAGEMENT
ENGINEERING
ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: GW4

Page: **2 of 2**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **5/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **5/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): X-COORDINATE: Y-COORDINATE: TOTAL DEPTH (m): **15.5**

VERTICAL DATUM: **Ground Level** HORIZONTAL DATUM: DIAMETER (mm):

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION USCS Soil Group Symbol, colour, soil types, particle characteristics or fines plasticity, secondary and minor components.	CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Piezometer Details	Graphic Log	Depth (m)
						9.80	**Shale** Grey, hard shale				
						15.50	**End of borehole at 15.5m** Refusal on rock				

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
PT = Push Tube
SPT = Standard Penetration Test
DHH = Down Hole Hammer (Tubex)

Sample Type
GS = Grab Sample
SS = Split Spoon Sampler

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing
mAHD = metres Australia Height Datum
PID = Photoionisation Detector
MGA = Map Grid of Australia

Monitoring Well Materials
1 = Well Screen, UPVC Class 18, 50mm diameter, Graded Sand.
2 = Well casing, UPVC Class 18, 50mm diameter, Bentonite Plug.
3 = Well casing, UPVC, Class 18 50mm diameter.
4 = Graded sand (filter pack)

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: GW5

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **6/5/09**

PROJECT: **Contamination Assessment** COMPLETED: **6/5/09**

LOCATION: **Wentworthville, NSW** LOGGED BY: **A Doran**

CONTRACTOR: **N/A** EQUIPMENT: **Truck Mounted Drill Rig** CHECKED BY: **A Dobson**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground Level** TOTAL DEPTH (m): **2.0** DIAMETER (mm):

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
	SF	GS		GW5/0.0-0.2	N/A	0.00	**Fill** Silty sand with gravels, brown / dark brown, occasional grey clay bands			
	SF	GS		GW5/0.3-0.5						
1	SF	GS		GW5/0.8-1.0		0.70	**Clay** Red, firm to stiff, minor grey bands, some ironstone, moist			1
						1.60	**Clay** Grey with red ironstone, banding, stiff, moist			
2	SF	GS		GW5/1.8-2.0		2.00	**End of borehole at 2.0m** Residual			2
3										3
4										4
5										5
6										6
7										7
8										8
9										9

Method
SF = Solid Flight Auger
HF = Hollow Flight Auger
HA = Hand Auger
PT = Push Tube

Sample Type
A = Auger
SS = Split Spoon Sampler
GS = Grab Sample
SC = Sediment Core

Other
SWL = Standing Water Level
R.L. @ TOC = Reduced Level at Top of Casing (mAHD)
PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS1

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **14/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **14/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1.2** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**			
	PCS	UDS		WS1/0.18-0.28	-	0.17	**FILL / REWORKED** Grey and red brown mottled, firm, clay. Some ironstone gravels, moist.			
	PCS	UDS		WS1/0.6-0.7		0.60	**FILL** Dark brown, gravel, sand, some clay, minor charcoal, moist.			
						0.80	**CLAY** Grey & red brown mottled, frequent ironstone, some shale gravels <10mm Ø, moist, soft-firm			
1										1
	PCS	UDS		WS1/1.1-1.2						
						1.20	**End Of Hole (Residual)**			
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS10

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0	PCS	UDS		WS10/0-0.1		0.00	**THIN BITUMEN**	Scattered bitumen & blue metals		0
							FILL Brown, silty sand, frequent mixed gravel, moist.			
						0.20	**FILL/REWORKED** Grey-brown & orange-brown mottled, slightly sandy clay, soft-firm, moist..	Small blue metal gravels		
	PCS	UDS		WS10/0.5-0.6		0.50	**CLAY** Grey & tan brown mottled, firm, moist.			
						0.80	Some ironstone banding.			
	PCS	UDS		WS10/0.9-1			**WEATHERED SHALE? CLAY** Grey, weathered, frequent clay bands, moist.			
1							Shale increasing & hardening with depth.			1
							End Of Hole			
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS11

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **14/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **14/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **0.65** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth/Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0						0.00	**CONCRETE**			0
	PCS	UDS		WS11/0.2-0.3		0.20	**REWORKED** Red-brown & grey mottled, firm clay & shale gravels, moist.			
							CLAY Grey, soft-firm, red ironstone banding.			
	PCS	UDS		WS11/0.5-0.6		0.50	**WEATHERED SHALE/ CLAY** Grey shale, with clay banding, minor red ironstone lenses.			
						0.65	Hardening with depth.			
							End Of Hole (Refusal on Shale)			
1										1
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS2

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1.0** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0	PCS	UDS		WS2/0-0.1		0.00	**GRASS**			0
							FILL Brown, silty sand, clay inclusions, frequent gravels.	Glass Fragment, Minor charcoal		
	PCS	UDS		WS2/0.3-0.4		0.25	**FILL** Red-brown, grey-brown clay, sand & gravels, moist.	Minor charcoal		
						0.50	**CLAY** Red-brown & grey mottled, firm-stiff, some ironstone & shale gravels, dry-moist. Becoming predominatley grey with depth. Grading to weathered shale			
	PCS	UDS		WS2/0.9-1.0						
1						1.00	**End Of Hole (Residual)**			1
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

SOIL BOREHOLE LOG

MANAGEMENT ENGINEERING ENVIRONMENT

BOREHOLE No.: WS3

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **14/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **14/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **3** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**			
	PCS	UDS		WS3/0.2-0.3		0.19	**FILL** Grey brown, gravel sand, medium grain, mixed unknown gravel.			
						0.40	**REWORKED/FILL** Grey & red-brown mottled clay, mixed gravel.			
	PCS	UDS		WS3/0.6-0.7		0.60	**FILL** Brown & grey-brown, sand, gravel & clay.	Some ash & charcoal		
						0.80	**REWORKED** Grey & tan brown mottled clay, firm, frequent ironstone gravels.			
1										1
	PCS	UDS		WS3/1.1-1.2						
						1.20	**FILL** .Grey-brown, soft, eustarine clay, some gravels, moist.	Frequent charcoal & ash		
	PCS	UDS		WS3/1.3-1.4						
						1.50	**REWORKED/FILL** Grey brown, sand, gravel & clay, moist			
2										2
						2.00	**CLAY** Grey orange-brown mottled, firm-stiff. Ironstone & shales increasing with depth.			
	PCS	UDS		WS3/2-2.3						
3										3
						3.00	**End Of Hole (Residual)**			

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

SOIL BOREHOLE LOG

MANAGEMENT ENGINEERING ENVIRONMENT

BOREHOLE No.: WS4

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **2.2** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**			
	PCS	UDS		WS4/0.3-0.4 [AD2]		0.28	**FILL** Grey brown, gravel sand & predominatley clay, moist.			
	PCS	UDS		WS4/0.5-0.6		0.43	**BITUMEN** Large bitumen cobble.			
							FILL Grey, clayey sand, with frequent bitumen & blue metal gravels.	Frequent bitumen & blue metal gravels		
1						0.85	**FILL/REWORKED** Brown & red-brown, firm clay, with frequent mixed gravels, moist.			1
	PCS	UDS		WS4/1.2-1.3						
						1.40	**CLAY** Grey & orange-brown mottled, firm-stiff, minor ironstone gravels, moist.			
2										2
	PCS	UDS		WS4/2-2.2						
						2.20	**End Of Hole (Residual)**			
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level
PID = Photoionisation Detector

SOIL BOREHOLE LOG

MANAGEMENT ENGINEERING ENVIRONMENT

BOREHOLE No.: WS5

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1.2** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**	Some rail ballast directly beneath concrete slab		
	PCS	UDS		WS5/0.2-0.3		0.19	**FILL** Grey-brown, sandy clay, frequent mixed gravels, moist.			
	PCS	UDS		WS5/0.4-0.5		0.35	**CLAY/IRONSTONE** Red-brown & red ironstone, with frequent grey-brown clay banding.			
						0.70	**CLAY** Grey & red-brown mottled, firm-stiff, clay, shale noted. Shale increasing & hardening with depth.			
1										1
	PCS	UDS		WS5/1.1-1.2						
						1.20	**End Of Hole (Refusal On Shale Rock)**			
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS6

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
							Ground Surface			
0	PCS	UDS		WS6/0-0.1		0.00	**UNSEALED**	String, Blue metal gravels, wood fragment, concrete		0
						0.15	**FILL** Grey-black, silt, gravel, sand, moist.			
	PCS	UDS		WS6/0.2-0.3			**FILL/REWORKED** Grey-brown & tan-brown mottled clay, frequent sand & gravels, moist, occasional clay lenses. Clay increasing with depth..	Slag/charcoal		
	PCS	UDS		WS6/0.7-0.8		0.70	**CLAY** Grey-brown & tan-brown mottled, firm-stiff, weathered shale lenses, moist. Red ironstone banding @ 0.9m			
1						1.00	**End Of Hole (Refusal On Shale Rock Bands)**			1
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

MANAGEMENT ENGINEERING ENVIRONMENT

SOIL BOREHOLE LOG

BOREHOLE No.: WS7

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **14/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **14/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **0.8** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**			
	PCS	UDS		WS7/0.2-0.3		0.19	**CLAY** Grey, soft-firm, some shale gravels.			
						0.50	**CLAY** Grey, firm, frequent red ironstone banding.			
	PCS	UDS		WS7/0.7-0.8			**IRONSTONE** Fractured red ironstone.			
							CLAY Grey, firm-stiff, frequent red ironstone banding.			
1							**End Of Hole (Residual)**			1
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level
PID = Photoionisation Detector

SOIL BOREHOLE LOG

BOREHOLE No.: WS8

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **14/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **14/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **1.4** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
						0.00	**CONCRETE**			
	PCS	UDS		WS8/0.2-0.3		0.18	**FILL** Grey-brown, gravel, sand, medium grain, mixed gravel, moist.	Brick fragment		
	PCS	UDS		WS8/0.5-0.6		0.30	**CLAY** Grey & red-brown mottled, firm-stiff, minor gravels <5mm Ø, moist.			
	PCS	UDS		WS8/0.7-0.8		0.70	**CLAY** Dark brown, soft, some gravels, moist.			
1	PCS	UDS		WS8/0.9-1			**CLAY/WEATHERED SHALE** Grey & red-brown, ironstone bands.			1
						1.40	**End Of Hole (Refusal On Shale)**			
2										2
3										3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level
PID = Photoionisation Detector

SOIL BOREHOLE LOG

MANAGEMENT ENGINEERING ENVIRONMENT

BOREHOLE No.: WS9

Page: **1 of 1**

CLIENT: **Pacific Brands** JOB No.: **2118504** COMMENCED: **20/05/09**

PROJECT: **Contamination Assessment** COMPLETED: **20/05/09**

LOCATION: **190 Dunmore Street, Wentworthville, NSW** LOGGED BY: **Charlie McLean**

CONTRACTOR: **GHD** EQUIPMENT: **Percussion Window Sampler** CHECKED BY: **Andrew Doran**

R.L. @ TOC (m AHD): VERTICAL DATUM: **Ground surface** TOTAL DEPTH (m): **3** DIAMETER (mm): **80 - 50**

X-COORDINATE: Y-COORDINATE: HORIZONTAL DATUM:

Depth (m)	Method	Sample Type	Water	Sample Number	PID (ppm)	Depth|Elevation (m)	DESCRIPTION - USCS Soil Group Symbol, colour, soil types, particle characteristics or plasticity, colour, secondary and minor components, moisture content, consistency, structure, geological origin.	CONTAMINANT INDICATORS - Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Graphic Log	Depth (m)
0							Ground Surface			0
	PCS	UDS		WS9/0-0.1		0.00	**GRASS**	Minor charcoal		
							FILL			
						0.15	Brown, silty sand, minor clay component, moist.	Minor ash & charcoal, Brick fragment		
							FILL			
							Brown & red-brown sandy clay, frequent gravels, moist.	Small concrete fragment		
	PCS	UDS		WS9/0.6-0.7				Slag & charcoal		
						0.80	Increasing grey sand.	Terracotta pipe fragment		
1										1
	PCS	UDS		WS9/1.7-2		1.90	**FILL**			
2							Grey-brown sand, gravel, dry.			2
								Wood fragments, boiler ash, coal		
	PCS	UDS		WS9/2.7-3						
3						3.00	**End Of Hole**			3

Method
PCS = Pneumatic Core Sampler

Sample Type
UDS = Undisturbed Samples

Other
SWL = Standing Water Level

PID = Photoionisation Detector

Appendix E

Laboratory Certificates and Chain of Custody Documentation

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

CERTIFICATE OF ANALYSIS 28731

Client:
GHD (Bond St)
10 Bond Street
Sydney
NSW 2000

Attention: Andrew Doran

Sample log in details:

Your Reference:	**2118504, Pacific Brands**
No. of samples:	49 Soils
Date samples received:	07/05/09
Date completed instructions received:	07/05/09

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:	14/05/09
Date of Preliminary Report:	Not issued
Issue Date:	14/05/09

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This document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

Matt Mansfield
Chemist

vTPH & BTEX in Soil						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	108	127	94	111	109

vTPH & BTEX in Soil						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	9/05/2009	9/05/2009	9/05/2009	9/05/2009	9/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	72	119	114	120	121

vTPH & BTEX in Soil				
Our Reference:	UNITS	28731-40	28731-46	28731-49
Your Reference	----------	BH5	BH5	AD2
Depth	----------	0-0.2	4.8-5.0	-
Date Sampled		6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	11/05/2009	9/05/2009	9/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	134	117	121

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	84	87	86	87	92

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	84	91	92	87	118

sTPH in Soil (C10-C36)				
Our Reference:	UNITS	28731-40	28731-46	28731-49
Your Reference	----------	BH5	BH5	AD2
Depth	----------	0-0.2	4.8-5.0	-
Date Sampled		6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	87	88	89

PAHs in Soil						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
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+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.08	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	106	96	99	97	106

PAHs in Soil						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
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	0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.8	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.8	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.5	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.7	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.4	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<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	0.2	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	103	103	105	103	104

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	28731-40 BH5 0-0.2 6/05/2009 Soil	28731-46 BH5 4.8-5.0 6/05/2009 Soil	28731-49 AD2 - 6/05/2009 Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	<0.1
Pyrene	mg/kg	0.3	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	103	104	102

PCBs in Soil						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	9/05/2009	9/05/2009	9/05/2009	9/05/2009	9/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	107	97	93	97	103

PCBs in Soil						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	9/05/2009	9/05/2009	9/05/2009	9/05/2009	9/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	104	110	110	103	101

PCBs in Soil				
Our Reference:	UNITS	28731-40	28731-46	28731-49
Your Reference	----------	BH5	BH5	AD2
Depth	----------	0-0.2	4.8-5.0	-
Date Sampled		6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil
Date extracted	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	9/05/2009	9/05/2009	9/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	104	110	108

Acid Extractable metals in soil						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	11/05/2009	11/05/2009	11/05/2009	11/05/2009	11/05/2009
Arsenic	mg/kg	15	7	5	10	17
Cadmium	mg/kg	<0.5	14	<0.5	<0.5	<0.5
Chromium	mg/kg	10	18	11	8	4
Copper	mg/kg	55	390	47	38	39
Lead	mg/kg	35	170	19	25	17
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	20	43	13	4
Zinc	mg/kg	35	1,700	48	28	31

Acid Extractable metals in soil						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	11/05/2009	11/05/2009	11/05/2009	11/05/2009	11/05/2009
Arsenic	mg/kg	9	9	18	39	15
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	8	12	10	13	14
Copper	mg/kg	37	48	26	49	77
Lead	mg/kg	26	18	20	23	180
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	26	32	20	64	29
Zinc	mg/kg	140	86	50	77	310

Acid Extractable metals in soil				
Our Reference:	UNITS	28731-40	28731-46	28731-49
Your Reference	----------	BH5	BH5	AD2
Depth	----------	0-0.2	4.8-5.0	-
Date Sampled		6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil
Date digested	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	11/05/2009	11/05/2009	11/05/2009
Arsenic	mg/kg	80	10	8
Cadmium	mg/kg	<0.5	<0.5	<0.5
Chromium	mg/kg	69	4	9
Copper	mg/kg	42	34	43
Lead	mg/kg	45	20	17
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	66	3	35
Zinc	mg/kg	96	28	89

Moisture						
Our Reference:	UNITS	28731-1	28731-5	28731-8	28731-10	28731-14
Your Reference	----------	GW1	GW1	GW2	GW2	GW3
Depth	----------	0-0.2	2.8-3.0	0.2-0.4	1.0-1.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Moisture	%	17	7.3	7.8	15	9.9

Moisture						
Our Reference:	UNITS	28731-20	28731-26	28731-30	28731-33	28731-38
Your Reference	----------	GW4	GW5	BH1	BH4	BH4
Depth	----------	0-0.2	0-0.2	0.1-0.3	0.1-0.3	3.8-4.0
Date Sampled		5/05/2009	6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009	8/05/2009	8/05/2009
Moisture	%	14	10	14	11	25

Moisture				
Our Reference:	UNITS	28731-40	28731-46	28731-49
Your Reference	----------	BH5	BH5	AD2
Depth	----------	0-0.2	4.8-5.0	-
Date Sampled		6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil
Date prepared	-	8/05/2009	8/05/2009	8/05/2009
Date analysed	-	8/05/2009	8/05/2009	8/05/2009
Moisture	%	8.9	10	10

Asbestos ID - soils						
Our Reference:	UNITS	28731-1	28731-5	28731-14	28731-20	28731-26
Your Reference	----------	GW1	GW1	GW3	GW4	GW5
Depth	----------	0-0.2	2.8-3.0	0-0.2	0-0.2	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	5/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	11/05/2009	11/05/2009	11/05/2009	11/05/2009	11/05/2009
Sample Description	-	30g Soil	30g Soil	30g Soil	30g Soil	30g Soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils					
Our Reference:	UNITS	28731-30	28731-33	28731-38	28731-40
Your Reference	----------	BH1	BH4	BH4	BH5
Depth	----------	0.1-0.3	0.1-0.3	3.8-4.0	0-0.2
Date Sampled		6/05/2009	6/05/2009	6/05/2009	6/05/2009
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	11/05/2009	11/05/2009	11/05/2009	11/05/2009
Sample Description	-	30g Soil	30g Soil	30g Soil	30g Soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

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

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-2	8/5/09
Date analysed	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-2	8/5/09
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	28731-1	<25 || <25	LCS-2	120%
Benzene	mg/kg	0.5	GC.16	<0.5	28731-1	<0.5 || <0.5	LCS-2	96%
Toluene	mg/kg	0.5	GC.16	<0.5	28731-1	<0.5 || <0.5	LCS-2	128%
Ethylbenzene	mg/kg	1	GC.16	<1.0	28731-1	<1.0 || <1.0	LCS-2	113%
m+p-xylene	mg/kg	2	GC.16	<2.0	28731-1	<2.0 || <2.0	LCS-2	131%
o-Xylene	mg/kg	1	GC.16	<1.0	28731-1	<1.0 || <1.0	LCS-2	121%
Surrogate aaa-Trifluorotoluene	%		GC.16	140	28731-1	108 || 121 || RPD: 11	LCS-2	82%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-3	8/5/09
Date analysed	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-3	8/5/09
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	28731-1	<50 || <50	LCS-3	92%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	28731-1	<100 || <100	LCS-3	88%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	28731-1	<100 || <100	LCS-3	84%
Surrogate o-Terphenyl	%		GC.3	84	28731-1	84 || 87 || RPD: 4	LCS-3	86%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-3	8/5/09
Date analysed	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-3	8/5/09
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	LCS-3	97%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	LCS-3	100%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	0.1 || <0.1	LCS-3	103%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	0.2 || <0.1	LCS-3	95%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	0.2 || <0.1	LCS-3	101%
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	0.1 || <0.1	LCS-3	111%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	28731-1	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	28731-1	0.08 || <0.05	LCS-3	94%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	100	28731-1	106 || 98 || RPD: 8	LCS-3	98%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			8/05/09	28731-1	8/05/2009 || 8/05/2009	LCS-2	8/05/09
Date analysed	-			9/05/09	28731-1	9/05/2009 || 9/05/2009	LCS-2	9/05/09
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	LCS-2	120%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	28731-1	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-6	102	28731-1	107 || 96 || RPD: 11	LCS-2	113%

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 digested	-			8/5/09	28731-1	8/05/2009 || 8/05/2009	LCS-2	8/5/09
Date analysed	-			11/5/09	28731-1	11/05/2009 || 11/05/2009	LCS-2	11/5/09
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	28731-1	15 || 12 || RPD: 22	LCS-2	104%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	28731-1	<0.5 || <0.5	LCS-2	100%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	28731-1	10 || 10 || RPD: 0	LCS-2	105%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	28731-1	55 || 47 || RPD: 16	LCS-2	104%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	28731-1	35 || 29 || RPD: 19	LCS-2	101%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	28731-1	<0.1 || <0.1	LCS-2	113%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	28731-1	7 || 6 || RPD: 15	LCS-2	104%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	28731-1	35 || 43 || RPD: 21	LCS-2	106%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			8/5/09
Date analysed	-			9/5/09
Moisture	%	0.1	LAB.8	<0.10

QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
Date analysed	-	28731-40	11/05/2009 || 9/05/2009	28731-5	8/5/09
vTPH C_6 - C_9	mg/kg	28731-40	<25 || <25	28731-5	80%
Benzene	mg/kg	28731-40	<0.5 || <0.5	28731-5	75%
Toluene	mg/kg	28731-40	<0.5 || <0.5	28731-5	84%
Ethylbenzene	mg/kg	28731-40	<1.0 || <1.0	28731-5	81%
m+p-xylene	mg/kg	28731-40	<2.0 || <2.0	28731-5	80%
o-Xylene	mg/kg	28731-40	<1.0 || <1.0	28731-5	80%
Surrogate aaa-Trifluorotoluene	%	28731-40	134 || 103 || RPD: 26	28731-5	126%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
Date analysed	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
TPH C_{10} - C_{14}	mg/kg	28731-40	<50 || <50	28731-5	92%
TPH C_{15} - C_{28}	mg/kg	28731-40	<100 || <100	28731-5	100%
TPH C_{29} - C_{36}	mg/kg	28731-40	<100 || <100	28731-5	79%
Surrogate o-Terphenyl	%	28731-40	87 || 87 || RPD: 0	28731-5	91%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
Date analysed	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
Naphthalene	mg/kg	28731-40	<0.1 || <0.1	28731-5	94%
Acenaphthylene	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	28731-40	<0.1 || <0.1	28731-5	94%
Phenanthrene	mg/kg	28731-40	0.2 || 0.2 || RPD: 0	28731-5	91%
Anthracene	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	28731-40	0.2 || 0.2 || RPD: 0	28731-5	83%
Pyrene	mg/kg	28731-40	0.3 || 0.3 || RPD: 0	28731-5	86%
Benzo(a)anthracene	mg/kg	28731-40	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Chrysene	mg/kg	28731-40	0.2 || 0.2 || RPD: 0	28731-5	84%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Benzo(b+k)fluoranthene	mg/kg	28731-40	0.2 || 0.2 || RPD: 0	[NR]	[NR]
Benzo(a)pyrene	mg/kg	28731-40	0.1 || 0.1 || RPD: 0	28731-5	60%
Indeno(1,2,3-c,d)pyrene	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	28731-40	0.1 || 0.1 || RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%	28731-40	103 || 102 || RPD: 1	28731-5	95%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/05/09
Date analysed	-	28731-40	9/05/2009 || 9/05/2009	28731-5	9/05/09
Arochlor 1016	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	28731-40	<0.1 || <0.1	28731-5	111%
Arochlor 1260	mg/kg	28731-40	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%	28731-40	104 || 102 || RPD: 2	28731-5	105%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	28731-40	8/05/2009 || 8/05/2009	28731-5	8/5/09
Date analysed	-	28731-40	11/05/2009 || 11/05/2009	28731-5	11/5/09
Arsenic	mg/kg	28731-40	80 || 79 || RPD: 1	28731-5	106%
Cadmium	mg/kg	28731-40	<0.5 || <0.5	28731-5	86%
Chromium	mg/kg	28731-40	69 || 73 || RPD: 6	28731-5	110%
Copper	mg/kg	28731-40	42 || 41 || RPD: 2	28731-5	104%
Lead	mg/kg	28731-40	45 || 41 || RPD: 9	28731-5	#
Mercury	mg/kg	28731-40	<0.1 || <0.1	28731-5	109%
Nickel	mg/kg	28731-40	66 || 73 || RPD: 10	28731-5	100%
Zinc	mg/kg	28731-40	96 || 76 || RPD: 23	28731-5	#

Report Comments:

Trace Elements #: high spike recovery has been obtained for Lead sample 5. This is due to samplr hetereogeneity. Spike recovery for Zinc could not be calculated due to a high level of the analytpresent in the sample. However, acceptable recoveries have been obtained for the Laboratory Control Sample.

Asbestos was analysed by Approved Identifier: Joshua Lim

INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than

RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

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 sample batch were within laboratory acceptance criteria.

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

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

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia
Telephone: (02) 9239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: 5 Day / ~~Within holding time~~
Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St | Date Submitted: 7/5/09
Project Manager Andrew Doran | Mobile No. | Chatswood NSW 2067 | Attention: Aileen Hie | Page 1 of 4
Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
1	GW1/0-0.2	6/5/09	2			✓	✓			✓	✓	✓	✓	✓	✓					1 = TPH C6-C9 & C10-C36
2	GW1/0.3-0.5	6/5/09	1			✓	✓													2 = BTEX
3	GW1/0.8-1.0	6/5/09	1			✓	✓													3 = PAH
4	GW1/1.8-2.0	6/5/09	1			✓	✓													4 = 8 Metals
5	GW1/2.8-3.0	6/5/09	1			✓	✓			✓	✓	✓	✓	✓	✓					5 = PCB
6	GW1/3.8-4.0	6/5/09	1			✓	✓													6 = Asbestos
7	GW1/4.8-5.0	6/5/09	1			✓	✓													
8	GW2/0.2-0.4	6/5/09	1			✓	✓			✓	✓	✓	✓	✓						
9	GW2/0.5-0.7	6/5/09	1			✓	✓													
10	GW2/1.0-1.2	6/5/09	1			✓	✓			✓	✓	✓	✓	✓						
11	GW2/2.0-2.2	6/5/09	1			✓	✓													
12	GW2/3.0-3.2	6/5/09	1			✓	✓													
13	GW2/4.0-4.2	6/5/09	1			✓	✓													
14	GW3/0-0.2	6/5/09	2			✓	✓			✓	✓	✓	✓	✓	✓					

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

Job No: 28731
Date received: 7/5/09
Time received: 1:30
Received by: SS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY					RECEIVED BY				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	7/5/09	1320		Simon	ELS	7/5/09	1:30	
RELINQUISHED BY					**RECEIVED BY**				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia
Telephone: (02) 9239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: ~~Within holding times~~ 5 Days
Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St
Project Manager Andrew Doran | Mobile No. | Chatswood NSW 2067 | Attention: Aileen Hie | Date Submitted: 7/5/09
Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 2 of 2

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
15	GW3|0.3-0.5	6/5/09	1			✓	✓													1 = TPH C6-C9 & C10-C36
16	GW3|0.8-1.0	6/5/09	1			✓	✓													2 = BTEX
17	GW3|1.8-2.0	6/5/09	1			✓	✓													3 = PAH
18	GW3|2.8-3.0	6/5/09	1			✓	✓													4 = 8 Metals
19	GW3|3.8-4.0	6/5/09	1			✓	✓													5 = PCB
20	GW4|0-0.2	5/5/09	2	Jar|Bag		✓	✓			✓	✓	✓	✓	✓	✓					
21	GW4|0.3-0.5	5/5/09	1			✓	✓													
22	GW4|0.8-1.0	5/5/09	1			✓	✓													
23	GW4|1.8-2.0	5/5/09	1			✓	✓													
24	GW4|2.8-3.0	5/5/09	1			✓	✓													
25	GW4|3.8-4.0	5/5/09	1			✓	✓													
26	GW5|0-0.2	6/5/09	2	Jar|Bag		✓	✓			✓	✓	✓	✓	✓	✓					
27	GW5|0.3-0.5	6/5/09	1			✓	✓													
28	GW5|0.8-1.0	6/5/09	1			✓	✓													

RELINQUISHED BY

Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	7/5/09	1320	

RECEIVED BY

Name	Organisation	Date	Time	Signed
Simon Song	ELS	7/5/09	1:30	

RELINQUISHED BY

Name	Organisation	Date	Time	Signed

RECEIVED BY

Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

GHD

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia

Telephone: (02) 9239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: 5 Day (Within holding times)

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St | Chatswood NSW 2067

Project Manager Andrew Doran | Mobile No. | Attention: Aileen Hie | Date Submitted: 7/5/09

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 1 of 2

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
29	GW5 | 1.8-2.0	6/5/09	1			✓	✓													1 = TPH C6-C9 & C10-C35
30	BH1 | 0.1-0.3	6/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					2 = BTEX
31	BH1 | 0.3-0.5	6/5/09	1			✓	✓													3 = PAH
32	BH1 | 0.8-1.0	6/5/09	1			✓	✓													4 = 8 Metals
33	BH4 | 0.1-0.3	6/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					5 = PCB
34	BH4 | 0.4-0.6	6/5/09	1			✓	✓													
35	BH4 | 0.8-1.0	6/5/09	1			✓	✓													
36	BH4 | 1.8-2.0	6/5/09	1			✓	✓													
37	BH4 | 2.8-3.0	6/5/09	1			✓	✓													
38	BH4 | 3.8-4.0	6/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					
39	BH4 | 4.8-5.0	6/5/09	1			✓	✓													
40	BH5 | 0-0.2	6/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					
41	BH5 | 0.3-0.5	6/5/09	1			✓	✓													
42	BH5 | 0.8-1.0	6/5/09	1			✓	✓													

RELINQUISHED BY

Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	7/5/09	1320	

RECEIVED BY

Name	Organisation	Date	Time	Signed
Simon Song	ENE	7/5/09	1:50	

RELINQUISHED BY

Name	Organisation	Date	Time	Signed

RECEIVED BY

Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia
Telephone: (02) 9239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: 5 Day ~~Within holding times~~

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St

Project Manager Andrew Doran | Mobile No. | Chatswood NSW 2067 | Attention: Aileen Hie | Date Submitted: 7/5/09

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 1 of 1

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED: 1	2	3	4	5	6	7	8	9	10	COMMENTS
43	BH5|1.8-2.0	6/5/09	1			✓	✓													1 = TPH C6-C9 & C10-C36
44	BH5|2.8-3.0	6/5/09	1			✓	✓													2 = BTEX
45	BH5|3.8-4.0	6/5/09	1			✓	✓													3 = PAH
46	BH5|4.8-5.0	6/5/09	1			✓	✓			✓	✓	✓	✓	✓						4 = 8 Metals
47	BH5|5.8-6.0	6/5/09	1			✓	✓													5 = PCB
48	AD1	5/5/09	1			✓	✓													
49	AD2	6/5/09	1			✓	✓			✓	✓	✓	✓	✓						
50	GW1 Fragment	6/5/09	1	- not received.					✓											

RELINQUISHED BY					RECEIVED BY				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	7/5/09	1320		Simon		7/5/9	1:30	

RELINQUISHED BY					RECEIVED BY				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

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

SAMPLE RECEIPT ADVICE

Client:

GHD (Bond St)
10 Bond Street
Sydney NSW 2000

ph: 02 9239 7100
Fax:

Attention: Andrew Doran

Sample log in details:

Your reference:	**2118504, Pacific Brands**
Envirolab Reference:	**28731**
Date received:	07/05/09
Date results expected to be reported:	**14/05/09**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	49 Soils
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice

Comments:

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

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

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

CERTIFICATE OF ANALYSIS 29052

Client:
GHD (Bond St)
10 Bond Street
Sydney
NSW 2000

Attention: Andrew Doran

Sample log in details:

Your Reference:	**2118504, Pacific Brands**
No. of samples:	41 Soils
Date samples received:	21/05/09
Date completed instructions received:	21/05/09

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:	28/05/09
Date of Preliminary Report:	Not Issued
Issue Date:	27/05/09

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This document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

Joshua Lim
Chemist

vTPH & BTEX in Soil						
Our Reference:	UNITS	29052-2	29052-5	29052-7	29052-10	29052-12
Your Reference	----------	WS1	WS2	WS3	WS3	WS4
Depth	----------	0.6-0.7	0.3-0.4	0.2-0.3	1.3-1.4	0.3-0.4
Date Sampled		14/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	127	134	131	140	134

vTPH & BTEX in Soil						
Our Reference:	UNITS	29052-16	29052-19	29052-22	29052-24	29052-28
Your Reference	----------	WS5	WS6	WS7	WS8	WS9
Depth	----------	0.2-0.3	0-0.1	0.2-0.3	0.2-0.3	0-0.1
Date Sampled		20/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	74	72	135	139	72

vTPH & BTEX in Soil						
Our Reference:	UNITS	29052-29	29052-32	29052-35	29052-37	29052-39
Your Reference	----------	WS9	WS10	WS11	BH3	BH3
Depth	----------	0.6-0.7	0-0.1	0.2-0.3	0-0.1	0.9-1.0
Date Sampled		20/05/2009	20/05/2009	14/05/2009	20/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	101	80	96	140	106

vTPH & BTEX in Soil			
Our Reference:	UNITS	29052-40	29052-41
Your Reference	----------	AD1	AD2
Depth	----------	-	-
Date Sampled		14/05/2009	20/05/2009
Type of sample		Soil	Soil
Date extracted	-	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009
vTPH C_6 - C_9	mg/kg	<25	<25
Benzene	mg/kg	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1.0	<1.0
m+p-xylene	mg/kg	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	77	75

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	29052-2	29052-5	29052-7	29052-10	29052-12
Your Reference	----------	WS1	WS2	WS3	WS3	WS4
Depth	----------	0.6-0.7	0.3-0.4	0.2-0.3	1.3-1.4	0.3-0.4
Date Sampled		14/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	106	98	102	99	100

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	29052-16	29052-19	29052-22	29052-24	29052-28
Your Reference	----------	WS5	WS6	WS7	WS8	WS9
Depth	----------	0.2-0.3	0-0.1	0.2-0.3	0.2-0.3	0-0.1
Date Sampled		20/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	180	<100	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	100	<100	<100	<100
Surrogate o-Terphenyl	%	101	97	101	95	98

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	29052-29	29052-32	29052-35	29052-37	29052-39
Your Reference	----------	WS9	WS10	WS11	BH3	BH3
Depth	----------	0.6-0.7	0-0.1	0.2-0.3	0-0.1	0.9-1.0
Date Sampled		20/05/2009	20/05/2009	14/05/2009	20/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	110
TPH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	100	96	95	93	112

sTPH in Soil (C10-C36) Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-40 AD1 - 14/05/2009 Soil	29052-41 AD2 - 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009
TPH C_{10} - C_{14}	mg/kg	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100
Surrogate o-Terphenyl	%	96	94

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-2 WS1 0.6-0.7 14/05/2009 Soil	29052-5 WS2 0.3-0.4 20/05/2009 Soil	29052-7 WS3 0.2-0.3 14/05/2009 Soil	29052-10 WS3 1.3-1.4 14/05/2009 Soil	29052-12 WS4 0.3-0.4 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Naphthalene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	116	103	105	106	105

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-16 WS5 0.2-0.3 20/05/2009 Soil	29052-19 WS6 0-0.1 20/05/2009 Soil	29052-22 WS7 0.2-0.3 14/05/2009 Soil	29052-24 WS8 0.2-0.3 14/05/2009 Soil	29052-28 WS9 0-0.1 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
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	0.2	<0.1	0.2	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.06	<0.05	0.07	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	107	107	110	108	108

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-29 WS9 0.6-0.7 20/05/2009 Soil	29052-32 WS10 0-0.1 20/05/2009 Soil	29052-35 WS11 0.2-0.3 14/05/2009 Soil	29052-37 BH3 0-0.1 20/05/2009 Soil	29052-39 BH3 0.9-1.0 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d_{14}	%	110	106	115	109	112

PAHs in Soil			
Our Reference:	UNITS	29052-40	29052-41
Your Reference	----------	AD1	AD2
Depth	----------	-	-
Date Sampled		14/05/2009	20/05/2009
Type of sample		Soil	Soil
Date extracted	-	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009
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	1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	1.1	<0.1
Pyrene	mg/kg	1.0	<0.1
Benzo(a)anthracene	mg/kg	0.3	<0.1
Chrysene	mg/kg	0.4	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.5	<0.2
Benzo(a)pyrene	mg/kg	0.3	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	<0.1
Surrogate p-Terphenyl-d_{14}	%	105	110

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-2 WS1 0.6-0.7 14/05/2009 Soil	29052-5 WS2 0.3-0.4 20/05/2009 Soil	29052-7 WS3 0.2-0.3 14/05/2009 Soil	29052-10 WS3 1.3-1.4 14/05/2009 Soil	29052-12 WS4 0.3-0.4 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	116	105	116	114	109

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-16 WS5 0.2-0.3 20/05/2009 Soil	29052-19 WS6 0-0.1 20/05/2009 Soil	29052-22 WS7 0.2-0.3 14/05/2009 Soil	29052-24 WS8 0.2-0.3 14/05/2009 Soil	29052-28 WS9 0-0.1 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Arochlor 1016	mg/kg	<0.1	<2	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<2	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<2	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<2	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	7.0	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<2	<0.1	<0.1	<0.1
Surrogate TCLMX	%	111	85	105	106	109

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-29 WS9 0.6-0.7 20/05/2009 Soil	29052-32 WS10 0-0.1 20/05/2009 Soil	29052-35 WS11 0.2-0.3 14/05/2009 Soil	29052-37 BH3 0-0.1 20/05/2009 Soil	29052-39 BH3 0.9-1.0 20/05/2009 Soil
Date extracted	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	116	116	114	108	112

PCBs in Soil			
Our Reference:	UNITS	29052-40	29052-41
Your Reference	----------	AD1	AD2
Depth	----------	-	-
Date Sampled		14/05/2009	20/05/2009
Type of sample		Soil	Soil
Date extracted	-	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	120	116

Acid Extractable metals in soil						
Our Reference:	UNITS	29052-2	29052-5	29052-7	29052-10	29052-12
Your Reference	----------	WS1	WS2	WS3	WS3	WS4
Depth	----------	0.6-0.7	0.3-0.4	0.2-0.3	1.3-1.4	0.3-0.4
Date Sampled		14/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	25/05/2009	25/05/2009	25/05/2009	25/05/2009	25/05/2009
Arsenic	mg/kg	6	5	6	8	5
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	5	6	25	19	17
Copper	mg/kg	43	21	42	34	36
Lead	mg/kg	15	12	14	180	23
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	14	27	9	20
Zinc	mg/kg	36	63	71	140	48

Acid Extractable metals in soil						
Our Reference:	UNITS	29052-16	29052-19	29052-22	29052-24	29052-28
Your Reference	----------	WS5	WS6	WS7	WS8	WS9
Depth	----------	0.2-0.3	0-0.1	0.2-0.3	0.2-0.3	0-0.1
Date Sampled		20/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	25/05/2009	25/05/2009	25/05/2009	25/05/2009	25/05/2009
Arsenic	mg/kg	<4	200	<4	7	7
Cadmium	mg/kg	0.6	3.1	<0.5	<0.5	0.6
Chromium	mg/kg	170	3,300	2	11	22
Copper	mg/kg	35	520	11	11	45
Lead	mg/kg	11	270	5	12	45
Mercury	mg/kg	<0.1	0.4	<0.1	<0.1	<0.1
Nickel	mg/kg	79	75	1	1	21
Zinc	mg/kg	240	2,300	6	6	100

Acid Extractable metals in soil						
Our Reference:	UNITS	29052-29	29052-32	29052-35	29052-37	29052-39
Your Reference	----------	WS9	WS10	WS11	BH3	BH3
Depth	----------	0.6-0.7	0-0.1	0.2-0.3	0-0.1	0.9-1.0
Date Sampled		20/05/2009	20/05/2009	14/05/2009	20/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	25/05/2009	25/05/2009	25/05/2009	25/05/2009	25/05/2009
Arsenic	mg/kg	10	14	8	<4	19
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	10	18	5	12	6
Copper	mg/kg	39	62	25	43	19
Lead	mg/kg	39	13	9	18	12
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	40	2	45	1
Zinc	mg/kg	73	49	12	61	6

Acid Extractable metals in soil			
Our Reference:	UNITS	29052-40	29052-41
Your Reference	----------	AD1	AD2
Depth	----------	-	-
Date Sampled		14/05/2009	20/05/2009
Type of sample		Soil	Soil
Date digested	-	22/05/2009	22/05/2009
Date analysed	-	25/05/2009	25/05/2009
Arsenic	mg/kg	9	5
Cadmium	mg/kg	<0.5	<0.5
Chromium	mg/kg	8	18
Copper	mg/kg	13	37
Lead	mg/kg	13	26
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	1	22
Zinc	mg/kg	8	65

Moisture						
Our Reference:	UNITS	29052-2	29052-5	29052-7	29052-10	29052-12
Your Reference	----------	WS1	WS2	WS3	WS3	WS4
Depth	----------	0.6-0.7	0.3-0.4	0.2-0.3	1.3-1.4	0.3-0.4
Date Sampled		14/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Moisture	%	14	7.0	9.3	17	18

Moisture						
Our Reference:	UNITS	29052-16	29052-19	29052-22	29052-24	29052-28
Your Reference	----------	WS5	WS6	WS7	WS8	WS9
Depth	----------	0.2-0.3	0-0.1	0.2-0.3	0.2-0.3	0-0.1
Date Sampled		20/05/2009	20/05/2009	14/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Moisture	%	6.3	24	11	17	12

Moisture						
Our Reference:	UNITS	29052-29	29052-32	29052-35	29052-37	29052-39
Your Reference	----------	WS9	WS10	WS11	BH3	BH3
Depth	----------	0.6-0.7	0-0.1	0.2-0.3	0-0.1	0.9-1.0
Date Sampled		20/05/2009	20/05/2009	14/05/2009	20/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009	22/05/2009	22/05/2009	22/05/2009
Moisture	%	10	6.2	15	11	18

Moisture			
Our Reference:	UNITS	29052-40	29052-41
Your Reference	----------	AD1	AD2
Depth	----------	-	-
Date Sampled		14/05/2009	20/05/2009
Type of sample		Soil	Soil
Date prepared	-	22/05/2009	22/05/2009
Date analysed	-	22/05/2009	22/05/2009
Moisture	%	18	16

Asbestos ID - soils						
Our Reference:	UNITS	29052-5	29052-7	29052-19	29052-24	29052-28
Your Reference	----------	WS2	WS3	WS6	WS8	WS9
Depth	----------	0.3-0.4	0.2-0.3	0-0.1	0.2-0.3	0-0.1
Date Sampled		20/05/2009	14/05/2009	20/05/2009	14/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	25/05/2009	25/05/2009	25/05/2009	25/05/2009	25/05/2009
Sample Description	-	30g soil	30g soil	30g soil	30g soil	30g soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils				
Our Reference:	UNITS	29052-32	29052-37	29052-38
Your Reference	----------	WS10	BH3	BH3
Depth	----------	0-0.1	0-0.1	0.5-0.6
Date Sampled		20/05/2009	20/05/2009	20/05/2009
Type of sample		Soil	Soil	Soil
Date analysed	-	25/05/2009	25/05/2009	25/05/2009
Sample Description	-	30g soil	30g soil	30g soil
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

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

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			22/05/2009	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/05/2009
Date analysed	-			22/05/2009	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/05/2009
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	29052-2	<25 || <25	LCS-1	77%
Benzene	mg/kg	0.5	GC.16	<0.5	29052-2	<0.5 || <0.5	LCS-1	65%
Toluene	mg/kg	0.5	GC.16	<0.5	29052-2	<0.5 || <0.5	LCS-1	82%
Ethylbenzene	mg/kg	1	GC.16	<1.0	29052-2	<1.0 || <1.0	LCS-1	79%
m+p-xylene	mg/kg	2	GC.16	<2.0	29052-2	<2.0 || <2.0	LCS-1	80%
o-Xylene	mg/kg	1	GC.16	<1.0	29052-2	<1.0 || <1.0	LCS-1	86%
Surrogate aaa-Trifluorotoluene	%		GC.16	118	29052-2	127 || 132 || RPD: 4	LCS-1	134%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			22/05/2009	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/05/2009
Date analysed	-			22/05/2009	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/05/2009
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	29052-2	<50 || <50	LCS-1	93%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	29052-2	<100 || <100	LCS-1	93%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	29052-2	<100 || <100	LCS-1	89%
Surrogate o-Terphenyl	%		GC.3	95	29052-2	106 || 102 || RPD: 4	LCS-1	96%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			22/5/09	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/5/09
Date analysed	-			22/5/09	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/5/09
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	88%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	101%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	109%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	102%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	109%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	LCS-1	116%
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	29052-2	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	29052-2	<0.05 || <0.05	LCS-1	97%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	114	29052-2	116 || 110 || RPD: 5	LCS-1	112%

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			22/5/09	29052-2	22/05/2009 || 22/05/2009	LCS-2	22/5/09
Date analysed	-			22/5/09	29052-2	22/05/2009 || 22/05/2009	LCS-2	22/5/09
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	LCS-2	115%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	29052-2	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-6	103	29052-2	116 || 113 || RPD: 3	LCS-2	110%

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 digested	-			22/05/09	29052-2	22/05/2009 || 22/05/2009	LCS-1	22/05/09
Date analysed	-			25/05/09	29052-2	25/05/2009 || 25/05/2009	LCS-1	25/05/09
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	29052-2	6 || 7 || RPD: 15	LCS-1	110%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	29052-2	<0.5 || <0.5	LCS-1	111%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	29052-2	5 || 6 || RPD: 18	LCS-1	113%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	29052-2	43 || 46 || RPD: 7	LCS-1	114%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	29052-2	15 || 16 || RPD: 6	LCS-1	110%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	29052-2	<0.1 || <0.1	LCS-1	109%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	29052-2	4 || 3 || RPD: 29	LCS-1	114%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	29052-2	36 || 18 || RPD: 67	LCS-1	114%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			22/05/2009
Date analysed	-			22/05/2009
Moisture	%	0.1	LAB.8	<0.10

QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/05/2009
Date analysed	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/05/2009
vTPH C_6 - C_9	mg/kg	29052-29	<25 || <25	29052-5	75%
Benzene	mg/kg	29052-29	<0.5 || <0.5	29052-5	62%
Toluene	mg/kg	29052-29	<0.5 || <0.5	29052-5	78%
Ethylbenzene	mg/kg	29052-29	<1.0 || <1.0	29052-5	78%
m+p-xylene	mg/kg	29052-29	<2.0 || <2.0	29052-5	78%
o-Xylene	mg/kg	29052-29	<1.0 || <1.0	29052-5	86%
Surrogate aaa-Trifluorotoluene	%	29052-29	101 || 77 || RPD: 27	29052-5	127%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/05/2009
Date analysed	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/05/2009
TPH C_{10} - C_{14}	mg/kg	29052-29	<50 || <50	29052-5	98%
TPH C_{15} - C_{28}	mg/kg	29052-29	<100 || <100	29052-5	98%
TPH C_{29} - C_{36}	mg/kg	29052-29	<100 || <100	29052-5	94%
Surrogate o-Terphenyl	%	29052-29	100 || 97 || RPD: 3	29052-5	100%

QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/5/09
Date analysed	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/5/09
Naphthalene	mg/kg	29052-29	<0.1 || <0.1	29052-5	107%
Acenaphthylene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	29052-29	<0.1 || <0.1	29052-5	103%
Phenanthrene	mg/kg	29052-29	0.1 || <0.1	29052-5	110%
Anthracene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	29052-29	<0.1 || <0.1	29052-5	101%
Pyrene	mg/kg	29052-29	<0.1 || <0.1	29052-5	108%
Benzo(a)anthracene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	29052-29	<0.1 || <0.1	29052-5	119%
Benzo(b+k)fluoranthene	mg/kg	29052-29	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	29052-29	<0.05 || <0.05	29052-5	96%
Indeno(1,2,3-c,d)pyrene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%	29052-29	110 || 110 || RPD: 0	29052-5	102%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/5/09
Date analysed	-	29052-29	22/05/2009 || 22/05/2009	29052-5	22/5/09
Arochlor 1016	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	29052-29	<0.1 || <0.1	29052-5	133%
Arochlor 1260	mg/kg	29052-29	<0.1 || <0.1	[NR]	[NR]
Surrogate TCLMX	%	29052-29	116 || 105 || RPD: 10	29052-5	103%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	29052-29	22/05/2009 || 22/05/2009	LCS-2	22/05/09
Date analysed	-	29052-29	25/05/2009 || 25/05/2009	LCS-2	25/05/09
Arsenic	mg/kg	29052-29	10 || 7 || RPD: 35	LCS-2	104%
Cadmium	mg/kg	29052-29	<0.5 || <0.5	LCS-2	104%
Chromium	mg/kg	29052-29	10 || 7 || RPD: 35	LCS-2	109%
Copper	mg/kg	29052-29	39 || 36 || RPD: 8	LCS-2	108%
Lead	mg/kg	29052-29	39 || 36 || RPD: 8	LCS-2	104%
Mercury	mg/kg	29052-29	<0.1 || <0.1	LCS-2	105%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Nickel	mg/kg	29052-29	9 || 12 || RPD: 29	LCS-2	109%
Zinc	mg/kg	29052-29	73 || 71 || RPD: 3	LCS-2	109%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	29052-5	22/05/09
Date analysed	-	[NT]	[NT]	29052-5	25/05/09
Arsenic	mg/kg	[NT]	[NT]	29052-5	105%
Cadmium	mg/kg	[NT]	[NT]	29052-5	103%
Chromium	mg/kg	[NT]	[NT]	29052-5	108%
Copper	mg/kg	[NT]	[NT]	29052-5	111%
Lead	mg/kg	[NT]	[NT]	29052-5	102%
Mercury	mg/kg	[NT]	[NT]	29052-5	108%
Nickel	mg/kg	[NT]	[NT]	29052-5	99%
Zinc	mg/kg	[NT]	[NT]	29052-5	103%

Report Comments:

PCB's in Soil: Sample #19 PQL raised due to interference from analytes in the sample.

Trace Elements: High duplicate RPD due to the inhomogeneity of the sample for this element.

Asbestos was analysed by Approved Identifier: Joshua Lim

INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than

RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

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 sample batch were within laboratory acceptance criteria.

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

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

GHD

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia
Telephone: (02) 8239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: Standard Within holding times.

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St, Chatswood NSW 2067

Project Manager Andrew Doran | Mobile No. | Attention: Aileen Hie | Date Submitted: 21/5/09

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 1 of 3

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
1	WS2/0.15-0.25	19/5/09	1			✓	✓													1 = TPH C6-C9 & C10-C36
2	WS1/0.6-0.7	19/5/09	1			✓	✓			✓	✓	✓	✓	✓						2 = BTEX
3	WS1/1.1-1.2	19/5/09	1			✓	✓													3 = PAH
4	WS2/0-0.1	20/5/09	2	Jar/Bag		✓	✓													4 = 8 Metals
5	WS2/0.3-0.4	20/5/09	1			✓	✓			✓	✓	✓	✓	✓	✓					5 = PCB
6	WS2/0.9-1.0	20/5/09	1			✓	✓													6 = Asbestos
7	WS3/0.2-0.3	19/5/09	2	Jar/Bag		✓	✓			✓	✓	✓	✓	✓	✓					
8	WS3/0.6-0.7	19/5/09	1			✓	✓													
9	WS3/1.1-1.2	19/5/09	1			✓	✓													
10	WS3/1.3-1.4	19/5/09	1			✓	✓			✓	✓	✓	✓	✓						
11	WS3/2.0-2.3	19/5/09	1			✓	✓													
12	WS4/0.3-0.4	20/5/09	1			✓	✓			✓	✓	✓	✓	✓						
13	WS4/0.5-0.6	20/5/09	1			✓	✓													
14	WS4/1.2-1.3	20/5/09	1			✓	✓													

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

Job No: 29052
Date received: 21/5/9
Time received: 1:30
Received by: SS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY

Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	21/5/09	10:00am	

RECEIVED BY

Name	Organisation	Date	Time	Signed
Simon Song	ELS	21/5/9	1:30pm	

RELINQUISHED BY

Name	Organisation	Date	Time	Signed

RECEIVED BY

Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

GHD

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Project No. 2118504 | Phone No. 0448 745 391 | Telephone: (02) 9239 7100 | Sent to Lab: Envirolab | Fax: (02) 9239 7194 | ABN 39 008 488 373

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St | Date Required: ~~Within holding times~~ Standard

Project Manager Andrew Doran | Mobile No. | Chatswood NSW 2067 | Attention: Aileen Hie | Date Submitted: 21/5/09

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 2 of 3

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
15	WS4/2.0-2.2	20/5/09	1			✓	✓													
16	WS5/0.2-0.3	20/5/09	1			✓	✓			✓	✓	✓	✓	✓						
17	WS5/0.4-0.5	20/5/09	1			✓	✓													
18	WS5/1.1-1.2	20/5/09	1			✓	✓													
19	WS6/0-0.1	20/5/09	2	Jar/Bag		✓	✓			✓	✓	✓	✓	✓	✓					
20	WS6/0.2-0.3	20/5/09	1			✓	✓													
21	WS6/0.7-0.8	20/5/09	1			✓	✓													
22	WS7/0.2-0.3	14/5/09	1			✓	✓			✓	✓	✓	✓	✓						
23	WS7/0.7-0.8	14/5/09	1			✓	✓													
24	WS8/0.2-0.3	14/5/09	2	Jar/Bag		✓	✓			✓	✓	✓	✓	✓	✓					
25	WS8/0.5-0.6	14/5/09	1			✓	✓													
26	WS8/0.7-0.8	14/5/09	1			✓	✓													
27	WS8/0.9-1.0	14/5/09	1			✓	✓													
28	WS9/0-0.1	20/5/09	2	Jar/Bag		✓	✓			✓	✓	✓	✓	✓	✓					

1 = TPH C6-C9 & C10-C36
2 = BTEX
3 = PAH
4 = 8 Metals
5 = PCB

RELINQUISHED BY

Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	21/5/09	10:00am	

RECEIVED BY

Name	Organisation	Date	Time	Signed
Simon Song	ELS	21/5/9	1:30	

RELINQUISHED BY

Name	Organisation	Date	Time	Signed

RECEIVED BY

Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

GHD

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia

Telephone: (02) 9239 7100 Fax: (02) 9239 7194 ABN 39 008 488 373

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Date Required: Standard (Within holding times)

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St, Chatswood NSW 2067 | Date Submitted: 21/5/09

Project Manager Andrew Doran | Mobile No. | Attention: Aileen Hie | Page 3 of 3

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED 1	2	3	4	5	6	7	8	9	10	COMMENTS
29	WS9 | 0.6-0.7	20/5/09	1			✓	✓			✓	✓	✓	✓	✓						1 = TPH C6-C9 & C10-C36
30	WS9 | 1.7-2.0	20/5/09	1			✓	✓													2 = BTEX
31	WS9 | 2.7-3.0	20/5/09	1			✓	✓													3 = PAH
32	WS10 | 0-0.1	20/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					4 = 8 Metals
33	WS10 | 0.5-0.6	20/5/09	1			✓	✓													5 = PCB
34	WS10 | 0.9-1.0	20/5/09	1			✓	✓													
35	WS11 | 0.2-0.3	14/5/09	1			✓	✓			✓	✓	✓	✓	✓						
36	WS11 | 0.5-0.6	14/5/09	1			✓	✓													
37	BH3 | 0-0.1	20/5/09	2	Jar | Bag		✓	✓			✓	✓	✓	✓	✓	✓					
38	BH3 | 0.5-0.6	20/5/09	2	Jar | Bag		✓	✓								✓					
39	BH3 | 0.9-1.0	20/5/09	1			✓	✓			✓	✓	✓	✓	✓						
40	AD1	14/5/09	1			✓	✓			✓	✓	✓	✓	✓						
41	AD2	20/5/09	1			✓	✓			✓	✓	✓	✓	✓						

RELINQUISHED BY

Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	20/5/09	10:00am	

RECEIVED BY

Name	Organisation	Date	Time	Signed
Simon Song	ELS	21/5/9		

RELINQUISHED BY

Name	Organisation	Date	Time	Signed

RECEIVED BY

Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

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

SAMPLE RECEIPT ADVICE

Client:

GHD (Bond St)
10 Bond Street
Sydney NSW 2000

ph: 02 9239 7100
Fax:

Attention: Andrew Doran

Sample log in details:

Your reference:	**2118504, Pacific Brands**
Envirolab Reference:	**29052**
Date received:	21/05/09
Date results expected to be reported:	**28/05/09**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	41 Soils
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice

Comments:

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

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

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

CERTIFICATE OF ANALYSIS 29052-A

Client:
GHD (Bond St)
10 Bond Street
Sydney
NSW 2000

Attention: Andrew Doran

Sample log in details:

Your Reference:	**2118504, Pacific Brands**
No. of samples:	2 Additional samples
Date samples received:	21/05/09
Date completed instructions received:	27/05/09

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:	28/05/09
Date of Preliminary Report:	Not Issued
Issue Date:	28/05/09

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

Results Approved By:

Jacinta Hurst
Operations Manager

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-A-20 WS6 0.2-0.3 20/05/2009 Soil	29052-A-21 WS6 0.7-0.8 20/05/2009 Soil
Date extracted	-	28/05/2009	28/05/2009
Date analysed	-	28/05/2009	28/05/2009
Arochlor 1016	mg/kg	<1	<0.1
Arochlor 1232	mg/kg	<1	<0.1
Arochlor 1242	mg/kg	<1	<0.1
Arochlor 1248	mg/kg	<1	<0.1
Arochlor 1254	mg/kg	<1	<0.1
Arochlor 1260	mg/kg	<1	<0.1
Surrogate TCLMX	%	71	78

Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ---------- ----------	29052-A-20 WS6 0.2-0.3 20/05/2009 Soil	29052-A-21 WS6 0.7-0.8 20/05/2009 Soil
Date prepared	-	28/05/2009	28/05/2009
Date analysed	-	28/05/2009	28/05/2009
Moisture	%	15	17

Method ID	Methodology Summary
GC-6	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/05/2009	[NT]	[NT]	LCS-1	28/05/2009
Date analysed	-			28/05/2009	[NT]	[NT]	LCS-1	28/05/2009
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	LCS-1	119%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-6	71	[NT]	[NT]	LCS-1	70%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			28/05/09
Date analysed	-			28/05/09
Moisture	%	0.1	LAB.8	<0.10

Report Comments:

PCB's in soil: PQL raised due to interference from analytes in the sample.

Asbestos was analysed by Approved Identifier: Joshua Lim

INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than

RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

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 sample batch were within laboratory acceptance criteria.

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

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

Jacinta Hurst

From: Andrew.Doran@ghd.com.au
Sent: Wednesday, 27 May 2009 05:34 PM
To: Jacinta Hurst
Subject: Job 29052

Jacinta

Could I please have samples WS6/0.2-0.3 (Envirolab sample 29052-20) and WS6/0.7-0.8 (Envirolab sample 29052-21) analysed for PCB on a 24hr turnaround?

Any problems please let me know.

Regards

Andrew

Envirolab ref
29052-A
24 hour T/A
due 28/5/09

Andrew Doran
Environmental Engineer
Contamination Assessment and Remediation

andrew.doran@ghd.com.au
Tel: 02 9239 7134 Mob: 0448 745 391 | Fax: 02 9239 7194

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10 Bond Street Sydney NSW Australia 2000 | http://www.ghd.com.au

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

CERTIFICATE OF ANALYSIS 28923

Client:
GHD (Bond St)
10 Bond Street
Sydney
NSW 2000

Attention: Andrew Doran

Sample log in details:

Your Reference:	**2118504, Pacific Brands**
No. of samples:	6 Waters
Date samples received:	15/05/09
Date completed instructions received:	15/05/09

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:	22/05/09
Date of Preliminary Report:	Not Issued
Issue Date:	22/05/09

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

Results Approved By:

Jacinta Hurst
Operations Manager

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
Date extracted	-	20/05/2009	20/05/2009	20/05/2009	20/05/2009	20/05/2009
Date analysed	-	20/05/2009	20/05/2009	20/05/2009	20/05/2009	20/05/2009
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	22	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Trans-1,2-dichloroethene	µg/L	<1.0	1.5	<1.0	<1.0	<1.0
1,1-dichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Cis-1,2-dichloroethene	µg/L	<1.0	98	<1.0	<1.0	<1.0
Bromochloromethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-dichloropropane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-trichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloropropene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloropropane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	µg/L	<1.0	18	<1.0	<1.0	<1.0
Bromodichloromethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-dichloropropene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-dichloropropene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichloropropane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromoethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	µg/L	<1.0	200	<1.0	<1.0	<1.0
1,1,1,2-tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-tetrachloroethane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0

VOCs in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
o-xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichloropropane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
n-propyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2-chlorotoluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
4-chlorotoluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-trimethyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Tert-butyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trimethyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Sec-butyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
4-isopropyl toluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
n-butyl benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromo-3-chloropropane	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate Dibromofluoromethane	%	99	100	96	99	98
Surrogate toluene-d8	%	101	101	101	100	101
Surrogate 4-BFB	%	98	102	98	99	96

VOCs in water		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
Date extracted	-	20/05/2009
Date analysed	-	20/05/2009
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1.0
Trans-1,2-dichloroethene	µg/L	<1.0
1,1-dichloroethane	µg/L	<1.0
Cis-1,2-dichloroethene	µg/L	<1.0
Bromochloromethane	µg/L	<1.0
Chloroform	µg/L	<1.0
2,2-dichloropropane	µg/L	<1.0
1,2-dichloroethane	µg/L	<1.0
1,1,1-trichloroethane	µg/L	<1.0
1,1-dichloropropene	µg/L	<1.0
Cyclohexane	µg/L	<1.0
Carbon tetrachloride	µg/L	<1.0
Benzene	µg/L	<1.0
Dibromomethane	µg/L	<1.0
1,2-dichloropropane	µg/L	<1.0
Trichloroethene	µg/L	<1.0
Bromodichloromethane	µg/L	<1.0
trans-1,3-dichloropropene	µg/L	<1.0
cis-1,3-dichloropropene	µg/L	<1.0
1,1,2-trichloroethane	µg/L	<1.0
Toluene	µg/L	<1.0
1,3-dichloropropane	µg/L	<1.0
Dibromochloromethane	µg/L	<1.0
1,2-dibromoethane	µg/L	<1.0
Tetrachloroethene	µg/L	<1.0
1,1,1,2-tetrachloroethane	µg/L	<1.0
Chlorobenzene	µg/L	<1.0
Ethylbenzene	µg/L	<1.0
Bromoform	µg/L	<1.0
m+p-xylene	µg/L	<2.0
Styrene	µg/L	<1.0
1,1,2,2-tetrachloroethane	µg/L	<1.0
o-xylene	µg/L	<1.0

VOCs in water		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
1,2,3-trichloropropane	µg/L	<1.0
Isopropylbenzene	µg/L	<1.0
Bromobenzene	µg/L	<1.0
n-propyl benzene	µg/L	<1.0
2-chlorotoluene	µg/L	<1.0
4-chlorotoluene	µg/L	<1.0
1,3,5-trimethyl benzene	µg/L	<1.0
Tert-butyl benzene	µg/L	<1.0
1,2,4-trimethyl benzene	µg/L	<1.0
1,3-dichlorobenzene	µg/L	<1.0
Sec-butyl benzene	µg/L	<1.0
1,4-dichlorobenzene	µg/L	<1.0
4-isopropyl toluene	µg/L	<1.0
1,2-dichlorobenzene	µg/L	<1.0
n-butyl benzene	µg/L	<1.0
1,2-dibromo-3-chloropropane	µg/L	<1.0
1,2,4-trichlorobenzene	µg/L	<1.0
Hexachlorobutadiene	µg/L	<1.0
1,2,3-trichlorobenzene	µg/L	<1.0
Surrogate Dibromofluoromethane	%	97
Surrogate toluene-d8	%	102
Surrogate 4-BFB	%	98

vTPH in Water (C6-C9) Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
Date extracted	-	19/05/2009	19/05/2009	19/05/2009	19/05/2009	19/05/2009
Date analysed	-	19/05/2009	19/05/2009	19/05/2009	19/05/2009	19/05/2009
TPH C_6 - C_9	µg/L	<10	200	<10	<10	<10
Surrogate Dibromofluoromethane	%	115	117	112	115	83
Surrogate toluene-d8	%	105	102	103	104	97
Surrogate 4-BFB	%	97	111	97	94	90

vTPH in Water (C6-C9) Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-6 BH5 15/05/2009 Water
Date extracted	-	19/05/2009
Date analysed	-	19/05/2009
TPH C_6 - C_9	µg/L	<10
Surrogate Dibromofluoromethane	%	109
Surrogate toluene-d8	%	108
Surrogate 4-BFB	%	96

sTPH in Water (C10-C36)						
Our Reference:	UNITS	28923-1	28923-2	28923-3	28923-4	28923-5
Your Reference	----------	GW2	GW1	BH4	AD1	GW4
Date Sampled	----------	15/05/2009	15/05/2009	15/05/2009	15/05/2009	15/05/2009
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	19/05/2009	20/05/2009	19/05/2009	20/05/2009	19/05/2009
Date analysed	-	19/05/2009	20/05/2009	19/05/2009	20/05/2009	19/05/2009
TPH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TPH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TPH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	93	101	102	105	106

sTPH in Water (C10-C36)		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
Date extracted	-	20/05/2009
Date analysed	-	20/05/2009
TPH C_{10} - C_{14}	µg/L	<50
TPH C_{15} - C_{28}	µg/L	<100
TPH C_{29} - C_{36}	µg/L	<100
Surrogate o-Terphenyl	%	99

SVOC's in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
Date extracted	-	18/05/2009	18/05/2009	18/05/2009	18/05/2009	18/05/2009
Date analysed	-	19/05/2009	19/05/2009	19/05/2009	19/05/2009	19/05/2009
Phenol	µg/L	<10	<10	<10	<10	<10
Bis (2-chloroethyl) ether	µg/L	<10	<10	<10	<10	<10
2-Chlorophenol	µg/L	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	µg/L	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	µg/L	<10	<10	<10	<10	<10
2-Methylphenol	µg/L	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	µg/L	<10	<10	<10	<10	<10
bis-(2-Chloroisopropyl) ether	µg/L	<10	<10	<10	<10	<10
3/4-Methylphenol	µg/L	<20	<20	<20	<20	<20
N-nitrosodi-n-propylamine	µg/L	<10	<10	<10	<10	<10
Hexachloroethane	µg/L	<10	<10	<10	<10	<10
Nitrobenzene	µg/L	<10	<10	<10	<10	<10
Isophorone	µg/L	<10	<10	<10	<10	<10
2,4-Dimethylphenol	µg/L	<10	<10	<10	<10	<10
2-Nitrophenol	µg/L	<10	<10	<10	<10	<10
bis (2-Chloroethoxy) methane	µg/L	<10	<10	<10	<10	<10
2,4-Dichlorophenol	µg/L	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	<10	<10	<10	<10	<10
Naphthalene	µg/L	<10	<10	<10	<10	<10
4-Chloroaniline	µg/L	<10	<10	<10	<10	<10
Hexachlorobutadiene	µg/L	<10	<10	<10	<10	<10
2-Methylnaphthalene	µg/L	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	µg/L	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	µg/L	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	µg/L	<10	<10	<10	<10	<10
2-Chloronaphthalene	µg/L	<10	<10	<10	<10	<10
2-Nitroaniline	µg/L	<10	<10	<10	<10	<10
Dimethyl phthalate	µg/L	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	µg/L	<10	<10	<10	<10	<10
Acenaphthylene	µg/L	<10	<10	<10	<10	<10
3-Nitroaniline	µg/L	<10	<10	<10	<10	<10
Acenaphthene	µg/L	<10	<10	<10	<10	<10
2,4-Dinitrophenol	µg/L	<100	<100	<100	<100	<100
4-Nitrophenol	µg/L	<100	<100	<100	<100	<100
Dibenzofuran	µg/L	<10	<10	<10	<10	<10
Diethylphthalate	µg/L	<10	<10	<10	<10	21
4-Chlorophenylphenylether	µg/L	<10	<10	<10	<10	<10
4-Nitroaniline	µg/L	<10	<10	<10	<10	<10
Fluorene	µg/L	<10	<10	<10	<10	<10

SVOC's in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
2-methyl-4,6-dinitrophenol	µg/L	<100	<100	<100	<100	<100
Azobenzene	µg/L	<10	<10	<10	<10	<10
4-Bromophenylphenylether	µg/L	<10	<10	<10	<10	<10
Hexachlorobenzene	µg/L	<10	<10	<10	<10	<10
Pentachlorophenol	µg/L	<100	<100	<100	<100	<100
Phenanthrene	µg/L	<10	<10	<10	<10	<10
Anthracene	µg/L	<10	<10	<10	<10	<10
Carbazole	µg/L	<10	<10	<10	<10	<10
Di-n-butylphthalate	µg/L	<10	<10	<10	<10	<10
Fluoranthene	µg/L	<10	<10	<10	<10	<10
Pyrene	µg/L	<10	<10	<10	<10	<10
Butylbenzylphthalate	µg/L	<10	<10	<10	<10	<10
Bi(2-ethylhexyl) phthalate	µg/L	<10	<10	<10	<10	<10
Benzo(a)anthracene	µg/L	<10	<10	<10	<10	<10
Chrysene	µg/L	<10	<10	<10	<10	<10
Di-n-octylphthalate	µg/L	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	µg/L	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	µg/L	<10	<10	<10	<10	<10
Benzo(a)pyrene	µg/L	<10	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene	µg/L	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	µg/L	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	µg/L	<10	<10	<10	<10	<10
Ethylmethanesulfonate	µg/L	<10	<10	<10	<10	<10
Aniline	µg/L	<10	<10	<10	<10	<10
Pentachloroethane	µg/L	<10	<10	<10	<10	<10
Benzyl alcohol	µg/L	<10	<10	<10	<10	<10
Acetophenone	µg/L	<10	<10	<10	<10	<10
N-nitrosomorpholine	µg/L	<10	<10	<10	<10	<10
3-methylphenol	µg/L	<10	<10	<10	<10	<10
N-nitrosopiperidine	µg/L	<10	<10	<10	<10	<10
2,6-Dichlorophenol	µg/L	<10	<10	<10	<10	<10
Hexachloropropene-1	µg/L	<10	<10	<10	<10	<10
N-nitroso-n-butylamine	µg/L	<10	<10	<10	<10	<10
Safrole	µg/L	<10	<10	<10	<10	<10
1,2,4,5-Tetrachlorobenzene	µg/L	<10	<10	<10	<10	<10
Trans-iso-safrole	µg/L	<10	<10	<10	<10	<10
1,3-Dinitrobenzene	µg/L	<10	<10	<10	<10	<10
Pentachlorobenzene	µg/L	<10	<10	<10	<10	<10
1-Naphthylamine	µg/L	<10	<10	<10	<10	<10
2,3,4,6-Tetrachlorophenol	µg/L	<10	<10	<10	<10	<10
2-Naphthylamine	µg/L	<10	<10	<10	<10	<10

SVOC's in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
5-Nitro-o-toluidine	µg/L	<10	<10	<10	<10	<10
Diphenylamine	µg/L	<10	<10	<10	<10	<10
Phenacetin	µg/L	<10	<10	<10	<10	<10
Pentachloronitrobenzene	µg/L	<10	<10	<10	<10	<10
Dinoseb	µg/L	<10	<10	<10	<10	<10
Methapyrilene	µg/L	<10	<10	<10	<10	<10
p-Dimethylaminoazobenzene	µg/L	<10	<10	<10	<10	<10
2-Acetylaminofluorene	µg/L	<10	<10	<10	<10	<10
7,12-Dimethylbenz(a)anthracene	µg/L	<10	<10	<10	<10	<10
3-Methylcholanthrene	µg/L	<10	<10	<10	<10	<10
a-BHC	µg/L	<10	<10	<10	<10	<10
b-BHC	µg/L	<10	<10	<10	<10	<10
g-BHC	µg/L	<10	<10	<10	<10	<10
d-BHC	µg/L	<10	<10	<10	<10	<10
Heptachlor	µg/L	<10	<10	<10	<10	<10
Aldrin	µg/L	<10	<10	<10	<10	<10
Heptachlor Epoxide	µg/L	<10	<10	<10	<10	<10
g-Chlordane	µg/L	<10	<10	<10	<10	<10
a-Chlordane	µg/L	<10	<10	<10	<10	<10
Endosulfan I	µg/L	<10	<10	<10	<10	<10
p,p'-DDE	µg/L	<10	<10	<10	<10	<10
Dieldrin	µg/L	<10	<10	<10	<10	<10
Endrin	µg/L	<10	<10	<10	<10	<10
p,p'-DDD	µg/L	<10	<10	<10	<10	<10
Endosulfan II	µg/L	<10	<10	<10	<10	<10
Endrin Aldehyde	µg/L	<10	<10	<10	<10	<10
p,p'-DDT	µg/L	<10	<10	<10	<10	<10
Endosulfan Sulphate	µg/L	<10	<10	<10	<10	<10
Surrogate 2-fluorophenol	%	47	46	45	52	48
Surrogate Phenol-d_6	%	25	32	28	34	31
Surrogate Nitrobenzene-d_5	%	102	101	83	110	108
Surrogate 2-fluorobiphenyl	%	84	86	77	89	85
Surrogate 2,4,6-Tribromophenol	%	87	82	76	84	85
Surrogate p-Terphenyl-d_{14}	%	94	89	84	96	94

SVOC's in water		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
Date extracted	-	18/05/2009
Date analysed	-	19/05/2009
Phenol	µg/L	<10
Bis (2-chloroethyl) ether	µg/L	<10
2-Chlorophenol	µg/L	<10
1,3-Dichlorobenzene	µg/L	<10
1,4-Dichlorobenzene	µg/L	<10
2-Methylphenol	µg/L	<10
1,2-Dichlorobenzene	µg/L	<10
bis-(2-Chloroisopropyl) ether	µg/L	<10
3/4-Methylphenol	µg/L	<20
N-nitrosodi-n-propylamine	µg/L	<10
Hexachloroethane	µg/L	<10
Nitrobenzene	µg/L	<10
Isophorone	µg/L	<10
2,4-Dimethylphenol	µg/L	<10
2-Nitrophenol	µg/L	<10
bis (2-Chloroethoxy) methane	µg/L	<10
2,4-Dichlorophenol	µg/L	<10
1,2,4-Trichlorobenzene	µg/L	<10
Naphthalene	µg/L	<10
4-Chloroaniline	µg/L	<10
Hexachlorobutadiene	µg/L	<10
2-Methylnaphthalene	µg/L	<10
Hexachlorocyclopentadiene	µg/L	<10
2,4,6-Trichlorophenol	µg/L	<10
2,4,5-Trichlorophenol	µg/L	<10
2-Chloronaphthalene	µg/L	<10
2-Nitroaniline	µg/L	<10
Dimethyl phthalate	µg/L	<10
2,6-Dinitrotoluene	µg/L	<10
Acenaphthylene	µg/L	<10
3-Nitroaniline	µg/L	<10
Acenaphthene	µg/L	<10
2,4-Dinitrophenol	µg/L	<100
4-Nitrophenol	µg/L	<100
Dibenzofuran	µg/L	<10
Diethylphthalate	µg/L	<10
4-Chlorophenylphenylether	µg/L	<10
4-Nitroaniline	µg/L	<10
Fluorene	µg/L	<10

SVOC's in water		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
2-methyl-4,6-dinitrophenol	µg/L	<100
Azobenzene	µg/L	<10
4-Bromophenylphenylether	µg/L	<10
Hexachlorobenzene	µg/L	<10
Pentachlorophenol	µg/L	<100
Phenanthrene	µg/L	<10
Anthracene	µg/L	<10
Carbazole	µg/L	<10
Di-n-butylphthalate	µg/L	<10
Fluoranthene	µg/L	<10
Pyrene	µg/L	<10
Butylbenzylphthalate	µg/L	<10
Bi(2-ethylhexyl) phthalate	µg/L	<10
Benzo(a)anthracene	µg/L	<10
Chrysene	µg/L	<10
Di-n-octylphthalate	µg/L	<10
Benzo(b)fluoranthene	µg/L	<10
Benzo(k)fluoranthene	µg/L	<10
Benzo(a)pyrene	µg/L	<10
Indeno(1,2,3-c,d)pyrene	µg/L	<10
Dibenzo(a,h)anthracene	µg/L	<10
Benzo(g,h,i)perylene	µg/L	<10
Ethylmethanesulfonate	µg/L	<10
Aniline	µg/L	<10
Pentachloroethane	µg/L	<10
Benzyl alcohol	µg/L	<10
Acetophenone	µg/L	<10
N-nitrosomorpholine	µg/L	<10
3-methylphenol	µg/L	<10
N-nitrosopiperidine	µg/L	<10
2,6-Dichlorophenol	µg/L	<10
Hexachloropropene-1	µg/L	<10
N-nitroso-n-butylamine	µg/L	<10
Safrole	µg/L	<10
1,2,4,5-Tetrachlorobenzene	µg/L	<10
Trans-iso-safrole	µg/L	<10
1,3-Dinitrobenzene	µg/L	<10
Pentachlorobenzene	µg/L	<10
1-Naphthylamine	µg/L	<10
2,3,4,6-Tetrachlorophenol	µg/L	<10
2-Naphthylamine	µg/L	<10

SVOC's in water Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	 28923-6 BH5 15/05/2009 Water
5-Nitro-o-toluidine	µg/L	<10
Diphenylamine	µg/L	<10
Phenacetin	µg/L	<10
Pentachloronitrobenzene	µg/L	<10
Dinoseb	µg/L	<10
Methapyrilene	µg/L	<10
p-Dimethylaminoazobenzene	µg/L	<10
2-Acetylaminofluorene	µg/L	<10
7,12-Dimethylbenz(a)anthracene	µg/L	<10
3-Methylcholanthrene	µg/L	<10
a-BHC	µg/L	<10
b-BHC	µg/L	<10
g-BHC	µg/L	<10
d-BHC	µg/L	<10
Heptachlor	µg/L	<10
Aldrin	µg/L	<10
Heptachlor Epoxide	µg/L	<10
g-Chlordane	µg/L	<10
a-Chlordane	µg/L	<10
Endosulfan I	µg/L	<10
p,p'-DDE	µg/L	<10
Dieldrin	µg/L	<10
Endrin	µg/L	<10
p,p'-DDD	µg/L	<10
Endosulfan II	µg/L	<10
Endrin Aldehyde	µg/L	<10
p,p'-DDT	µg/L	<10
Endosulfan Sulphate	µg/L	<10
Surrogate 2-fluorophenol	%	45
Surrogate Phenol-d_6	%	28
Surrogate Nitrobenzene-d_5	%	109
Surrogate 2-fluorobiphenyl	%	89
Surrogate 2,4,6-Tribromophenol	%	93
Surrogate p-Terphenyl-d_{14}	%	96

HM in water - dissolved Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-1 GW2 15/05/2009 Water	28923-2 GW1 15/05/2009 Water	28923-3 BH4 15/05/2009 Water	28923-4 AD1 15/05/2009 Water	28923-5 GW4 15/05/2009 Water
Date prepared	-	18/05/2009	18/05/2009	18/05/2009	18/05/2009	18/05/2009
Date analysed	-	19/05/2009	19/05/2009	19/05/2009	19/05/2009	19/05/2009
Arsenic-Dissolved	µg/L	2.0	<1.0	<1.0	<1.0	18
Cadmium-Dissolved	µg/L	<0.10	0.80	0.20	0.20	0.20
Chromium-Dissolved	µg/L	2.0	2.0	<1.0	<1.0	<1.0
Copper-Dissolved	µg/L	3.0	4.0	<1.0	3.0	1.0
Lead-Dissolved	µg/L	2.0	<1.0	<1.0	<1.0	<1.0
Mercury-Dissolved	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel-Dissolved	µg/L	10	37	16	16	52
Zinc-Dissolved	µg/L	71	200	150	150	11

HM in water - dissolved Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	28923-6 BH5 15/05/2009 Water
Date prepared	-	18/05/2009
Date analysed	-	19/05/2009
Arsenic-Dissolved	µg/L	<1.0
Cadmium-Dissolved	µg/L	<0.10
Chromium-Dissolved	µg/L	<1.0
Copper-Dissolved	µg/L	<1.0
Lead-Dissolved	µg/L	<1.0
Mercury-Dissolved	µg/L	<0.50
Nickel-Dissolved	µg/L	<1.0
Zinc-Dissolved	µg/L	35

Miscellaneous Inorganics						
Our Reference:	UNITS	28923-1	28923-2	28923-3	28923-4	28923-5
Your Reference	----------	GW2	GW1	BH4	AD1	GW4
Date Sampled	----------	15/05/2009	15/05/2009	15/05/2009	15/05/2009	15/05/2009
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	20/05/200920 /05/2009	20/05/200920 /05/2009	20/05/200920 /05/2009	20/05/200920 /05/2009	20/05/200920 /05/2009
Date analysed	-	20/05/2009	20/05/2009	20/05/2009	20/05/2009	20/05/2009
Ammonia as N in water	mg/L	0.3	1.4	0.3	0.3	1.6

Miscellaneous Inorganics		
Our Reference:	UNITS	28923-6
Your Reference	----------	BH5
Date Sampled	----------	15/05/2009
Type of sample		Water
Date prepared	-	20/05/200920 /05/2009
Date analysed	-	20/05/2009
Ammonia as N in water	mg/L	0.3

Method ID	Methodology Summary
GC.13	Water samples are analysed directly by purge and trap GC-MS.
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.22 ICP-MS	Determination of various metals by ICP-MS.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.57	Ammonia water extractable - determined colourimetrically based on EPA103A.

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			20/05/2009	[NT]	[NT]	LCS-W1	20/05/2009
Date analysed	-			20/05/2009	[NT]	[NT]	LCS-W1	20/05/2009
Dichlorodifluoromethane	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
Chloromethane	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
Bromomethane	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
Chloroethane	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	µg/L	10	GC.13	<10	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Trans-1,2-dichloroethene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	104%
Cis-1,2-dichloroethene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Bromochloromethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Chloroform	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	105%
2,2-dichloropropane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	106%
1,1,1-trichloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	106%
1,1-dichloropropene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Cyclohexane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Carbon tetrachloride	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Dibromomethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Trichloroethene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	134%
Bromodichloromethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	124%
trans-1,3-dichloropropene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Dibromochloromethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	120%
1,2-dibromoethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Tetrachloroethene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS-W1	115%
1,1,1,2-tetrachloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Chlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Bromoform	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	[NR]	[NR]
Styrene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL VOCs in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
1,1,2,2-tetrachloroethane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Isopropylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Bromobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Tert-butyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Sec-butyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%		GC.13	109	[NT]	[NT]	LCS-W1	93%
Surrogate toluene-d8	%		GC.13	98	[NT]	[NT]	LCS-W1	99%
Surrogate 4-BFB	%		GC.13	106	[NT]	[NT]	LCS-W1	101%

QUALITY CONTROL vTPH in Water (C6-C9)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/05/09	[NT]	[NT]	LCS-W1	19/05/09
Date analysed	-			19/05/09	[NT]	[NT]	LCS-W1	19/05/09
TPH C_6 - C_9	µg/L	10	GC.16	<10	[NT]	[NT]	LCS-W1	101%
Surrogate Dibromofluoromethane	%		GC.13	110	[NT]	[NT]	LCS-W1	113%
Surrogate toluene-d8	%		GC.13	103	[NT]	[NT]	LCS-W1	107%
Surrogate 4-BFB	%		GC.13	95	[NT]	[NT]	LCS-W1	92%

QUALITY CONTROL sTPH in Water (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/05/09	[NT]	[NT]	LCS-W1	18/05/09
Date analysed	-			18/05/09	[NT]	[NT]	LCS-W1	18/05/09
TPH C_{10} - C_{14}	µg/L	50	GC.3	<50	[NT]	[NT]	LCS-W1	78%
TPH C_{15} - C_{28}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	100%
TPH C_{29} - C_{36}	µg/L	100	GC.3	<100	[NT]	[NT]	LCS-W1	88%
Surrogate o-Terphenyl	%		GC.3	95	[NT]	[NT]	LCS-W1	115%

QUALITY CONTROL SVOC's in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/05/2009	[NT]	[NT]	LCS-W1	18/05/2009
Date analysed	-			19/05/2009	[NT]	[NT]	LCS-W1	19/05/2009
Phenol	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	50%
Bis (2-chloroethyl) ether	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Chlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	76%
1,3-Dichlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1,4-Dichlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	80%
2-Methylphenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1,2-Dichlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
bis-(2-Chloroisopropyl) ether	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
3/4-Methylphenol	µg/L	20	GC.12	<20	[NT]	[NT]	[NR]	[NR]
N-nitrosodi-n-propylamine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Hexachloroethane	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Nitrobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Isophorone	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,4-Dimethylphenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL SVOC's in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
2-Nitrophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
bis (2-Chloroethoxy) methane	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,4-Dichlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1,2,4-Trichlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Naphthalene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
4-Chloroaniline	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Hexachlorobutadiene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Methylnaphthalene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Hexachlorocyclopentadiene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,4,6-Trichlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,4,5-Trichlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Chloronaphthalene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Nitroaniline	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Dimethyl phthalate	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	84%
2,6-Dinitrotoluene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Acenaphthylene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
3-Nitroaniline	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	83%
2,4-Dinitrophenol	µg/L	100	GC.12	<100	[NT]	[NT]	[NR]	[NR]
4-Nitrophenol	µg/L	100	GC.12	<100	[NT]	[NT]	LCS-W1	45%
Dibenzofuran	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Diethylphthalate	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	80%
4-Chlorophenylphenylether	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
4-Nitroaniline	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-methyl-4,6-dinitrophenol	µg/L	100	GC.12	<100	[NT]	[NT]	[NR]	[NR]
Azobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
4-Bromophenylphenylether	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Hexachlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Pentachlorophenol	µg/L	100	GC.12	<100	[NT]	[NT]	[NR]	[NR]
Phenanthrene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Anthracene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Carbazole	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Di-n-butylphthalate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Pyrene	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	82%
Butylbenzylphthalate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Bi(2-ethylhexyl) phthalate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzo(a)anthracene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL SVOC's in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Chrysene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Di-n-octylphthalate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzo(b)fluoranthene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzo(k)fluoranthene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Indeno(1,2,3-c,d)pyrene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Ethylmethanesulfonate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Aniline	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Pentachloroethane	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Benzyl alcohol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Acetophenone	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
N-nitrosomorpholine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
3-methylphenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
N-nitrosopiperidine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,6-Dichlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Hexachloropropene-1	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
N-nitroso-n-butylamine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Safrole	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1,2,4,5-Tetrachlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Trans-iso-safrole	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1,3-Dinitrobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Pentachlorobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
1-Naphthylamine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2,3,4,6-Tetrachlorophenol	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Naphthylamine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
5-Nitro-o-toluidine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Diphenylamine	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Phenacetin	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Pentachloronitrobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Dinoseb	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Methapyrilene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
p-Dimethylaminoazobenzene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
2-Acetylaminofluorene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
7,12-Dimethylbenz(a)anthracene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
3-Methylcholanthrene	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
a-BHC	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
b-BHC	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
g-BHC	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
d-BHC	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL SVOC's in water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Heptachlor	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Aldrin	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	101%
Heptachlor Epoxide	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
g-Chlordane	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
a-Chlordane	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Endosulfan I	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
p,p'-DDE	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Dieldrin	µg/L	10	GC.12	<10	[NT]	[NT]	LCS-W1	108%
Endrin	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
p,p'-DDD	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Endosulfan II	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
p,p'-DDT	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	µg/L	10	GC.12	<10	[NT]	[NT]	[NR]	[NR]
Surrogate 2-fluorophenol	%		GC.12	82	[NT]	[NT]	LCS-W1	84%
Surrogate Phenol-d_6	%		GC.12	55	[NT]	[NT]	LCS-W1	56%
Surrogate Nitrobenzene-d_5	%		GC.12	98	[NT]	[NT]	LCS-W1	105%
Surrogate 2-fluorobiphenyl	%		GC.12	77	[NT]	[NT]	LCS-W1	82%
Surrogate 2,4,6-Tribromophenol	%		GC.12	77	[NT]	[NT]	LCS-W1	85%
Surrogate p-Terphenyl-d_{14}	%		GC.12	81	[NT]	[NT]	LCS-W1	93%

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	-			18/05/09	[NT]	[NT]	LCS-W1	18/05/09
Date analysed	-			19/05/09	[NT]	[NT]	LCS-W1	19/05/09
Arsenic-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	98%
Cadmium-Dissolved	µg/L	0.1	Metals.22 ICP-MS	<0.10	[NT]	[NT]	LCS-W1	101%
Chromium-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	97%
Copper-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	90%
Lead-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	104%
Mercury-Dissolved	µg/L	0.5	Metals.21 CV-AAS	<0.50	[NT]	[NT]	LCS-W1	93%
Nickel-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	94%

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Zinc-Dissolved	µg/L	1	Metals.22 ICP-MS	<1.0	[NT]	[NT]	LCS-W1	91%

QUALITY CONTROL Miscellaneous Inorganics	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			20/05/2009	28923-1	20/05/200920/05/2009 || 20/05/200920/05/2009	LCS-W1	20/05/2009
Date analysed	-			20/05/2009	28923-1	20/05/2009 || 20/05/2009	LCS-W1	20/05/2009
Ammonia as N in water	mg/L	0.1	LAB.57	<0.1	28923-1	0.3 || 0.4 || RPD: 29	LCS-W1	114%

QUALITY CONTROL Miscellaneous Inorganics	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	28923-2	20/05/2009
Date analysed	-	[NT]	[NT]	28923-2	20/05/2009
Ammonia as N in water	mg/L	[NT]	[NT]	28923-2	#

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job
INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

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 sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

GHD Pty Ltd 10 Bond Street Sydney NSW 2000 Australia | Telephone: (02) 9239 7100 | Fax: (02) 9239 7194 | ABN 39 008 488 373

Project No. 2118504 | Phone No. 0448 745 391 | Sent to Lab: Envirolab | Data Required: Standard. 5 day

Project Name Pacific Brands | Fax No. 9239 7195 | Address: 12 Ashley St

Project Manager Andrew Doran | Mobile No. | Chatswood NSW 2067 | Attention: Aileen Hie | Date Submitted: 15/5/09

Contact Name Andrew Doran | Email andrew.doran@ghd.com.au | Fax: 9910 6201 | Phone: 9910 6200 | Page 1 of 1

	SAMPLE No.	Date Sampled	No. of Containers	Container Type /Size	MATRIX: Water	MATRIX: Soil	PRESERVATION: Chill	PRESERVATION: Acid	PRESERVATION: Other	ANALYSIS REQUIRED: 1	2	3	4	5	6	7	8	9	10	COMMENTS
1	GW2	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						1 = TPH C6-C9 & C10-C36
2	GW1	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						2 = ~~BTEX~~ VOC's
3	BH4	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						3 = ~~PAH~~ sVOC's
4	AD1	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						4 = 8 Metals (dissolved)
5	GW4	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						5 = ~~Phen~~ Ammonia
6	BH5	15/5/09	5		✓		✓			✓	✓	✓	✓	✓						

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

Job No: 28923
Date received: 15/5/09
Time received: 4:30
Received by: SS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY					RECEIVED BY				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed
Andrew Doran	GHD	15/5/09	4:30pm		Simon Song	ELS	15/5/09	4:30	

RELINQUISHED BY					RECEIVED BY				
Name	Organisation	Date	Time	Signed	Name	Organisation	Date	Time	Signed

It is the responsibility of the receiver to verify that the number of samples and their identifying samples numbers correspond to those listed on this form

PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 9239 7194

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

SAMPLE RECEIPT ADVICE

Client:

GHD (Bond St)
10 Bond Street
Sydney NSW 2000

ph: 02 9239 7100
Fax:

Attention: Andrew Doran

Sample log in details:

Your reference:	**2118504, Pacific Brands**
Envirolab Reference:	**28923**
Date received:	15/05/09
Date results expected to be reported:	**22/05/09**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	6 Waters
Turnaround time requested:	Standard
Temperature on receipt	Ambient
Cooling Method:	None

Comments:

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

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

GHD

10 Bond Street Sydney NSW 2000

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T: 2 9239 7100 F: 2 9239 7199 E: sydmail@ghd.com.au

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	Andrew Doran	Wendy Phillips		Wendy Phillips		29/05/09