1st July 2010



PENRITH HEALTH CAMPUS REDEVELOPMENT STAGE 3A

Phase I & II Environmental Site Assessment

Submitted to: Health Infrastructure c/- Aurora Projects Pty Ltd Level 6, 50 Berry Street North Sydney NSW 2060

REPORT

Report Number.

107622059-003-R-Rev0



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1.0 INTRODUCTION

1.1 Background

Golder Associates Pty Ltd (Golder) has been instructed by Aurora Projects Pty Ltd (Aurora) on behalf of Health Infrastructure NSW to conduct a Phase I and II Environmental Site Assessment (ESA) for the Penrith Health Campus Redevelopment Stage 3A in accordance with our proposal (P07622032_001_P_Rev0) dated 7th April 2010 and Aurora's subsequent acceptance dated 12th April 2010.

It is understood that the Stage 3A development will include the following:

- A Mental Health Patient Unit at the location of the existing maintenance depot and current car parking area off Derby Street. The development is expected to involve the demolition of the existing on-Site structures and construction of a two level building, including excavation of up to about three metres below the existing ground level;
- An Oral Health Unit to be located within an existing car park to the east of the proposed East Block (part of the Stage 3 development). This development is expected to involve the removal of the open air car park infrastructure and construction of a single storey building; and
- A new Maintenance Depot to be located within an existing car park to the north of the existing North Block. The development is expected to consist of a two storey building.

This ESA has been conducted alongside an intrusive geotechnical investigation within the footprint of the Stage 3A development. According to the *Approval of Major Project No. 09-0149* document prepared by the Minister of Planning under Section 75J of the *Environmental Planning and Assessment Act 1979* this ESA is required to be prepared prior to certification of the building works and the purpose is to assist in adequately mitigating the environmental and construction impact of the development.

1.2 Scope of Work

The ESA comprised a desktop study and walkover coupled with an intrusive soil and groundwater investigation. The desktop assessment was carried out as part of the ESA prior to commencement of fieldwork. This assessment included the following:

- A review of local geology; and
- A review of regulatory databases (such as the NSW DECCW CLM Act and POEO Registers and a search of groundwater bore licenses), as well as a review of historic titles, Council Section 149 Planning Certificate, historic aerial photographs of the Site and surrounds and the WorkCover Dangerous Goods register. This information will provide an assessment of the potential for past and current contaminating land uses on and around the site.

The intrusive investigation was carried out alongside the geotechnical works. The table below presents the number of boreholes drilled on-Site as part of the overall investigation.

Location	Site Area	Recommended Sampling Locations*	No. of Proposed Geotechnical Boreholes #	No. of Proposed Environmental only Boreholes
Mental Health Patient Unit	4560m ²	13	6	7
Oral Health Unit Site	1700m ²	7	2	5
Maintenance Depot	544m ²	5	1	4

Table 11: Summary of Geotechnical and Environment Sampling Locations

* In accordance with the Sampling Design Guidelines (EPA 1995) and AS4482.1.

Geotechnical boreholes include environmental fieldwork component.



Three boreholes were selected for installation of groundwater monitoring wells for monitoring water level and quality in the field and collection of samples for laboratory analysis.

Golder allowed for one to two environmental soil samples to be analysed per location with five samples in total for field Quality Assurance/Quality Control (QA/QC) purposes. We also allowed for one water sample per well location to be tested with one sample for field QA/QC testing. Analyses was carried out by a laboratory NATA-accredited for the tests performed.

Analyte	Number of Analyses	Primary QA/QC	Total
Heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)	40	4	44
Organochlorine pesticides (OCP)	40	4	44
Polycyclic aromatic hydrocarbons (PAH)	40	4	44
Polychlorinated biphenyls (PCB)	40	4	44
Benzene, toluene, ethylbenzene and xylene (BTEX)	40	4	44
Total petroleum hydrocarbons (TPH)	40	4	44
TCLP heavy metals	3	0	3
Groundwater Suite of Tests	4	1	5
Asbestos	13	0	13
Electrical Conductivity (EC)	4	0	4
рН	2	0	2
Sulfate and chloride	2	0	2
Cation exchange capacity (CEC)	4	0	4

Table 12: Environmental Laboratory Testing Program

Groundwater samples were analysed for pH, EC, sulphate and chloride, TPH, BTEX, heavy metals and PAH. The proposed laboratory detection limits for BTEX and metals were suitable for comparison to the trigger levels presented in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC 2000). Laboratory detection limits for PAHs of 0.1ug/L were suitable for comparison with the ANZECC 2000 high-reliability trigger level for naphthalene (a PAH compound).

This ESA report has been prepared based upon the findings of the desktop study and the intrusive investigations and subsequent laboratory analyses. Based upon this information we have provided advice on the following:

- Assessment against relevant NSW DECCW endorsed guidelines;
- Waste classification of materials for potential disposal off-Site; and
- An assessment of Site suitability for ongoing commercial/industrial land use.



2.0 SITE DESCRIPTION

2.1 Site Identification

The Site locality map and current Site plan are presented in this report as Figure 1 and Figure 2 respectively. The Site of the Stage 3A development is located within the Nepean Hospital compound approximately 1.5 kilometres east of Penrith city centre, NSW.

As stated in the introduction the Site comprises land currently in use for car parking in the north and east of the Site and as car parking and a maintenance depot in the south of the Site.

The Site of the Stage 3A development comprises three separate parcels of land including the Mental Health Patient Unit (approx 4,560m²), Oral Health Unit (approx 1,700m²), and Maintenance Depot (approx 544m²). The total Site area is approx 6,804m². Table 3 below presents a summary of the general details of the Site.

Site Name	Nepean Hospital				
Street Address	Derby / Somerset Streets				
City, State, Postal Code	Kingswood, NSW 2747				
Country	Australia				
Legal Description	Lot 1, Deposited Plan 1114090				
Co-ordinates (MGA 56)	288300mE, 6262100mN				
Zoning	Zone 5(a) Special Uses (Hospital)				
Site Setting and Surrounding Landuse	The car parks and maintenance depot comprising the Stage 3A development area are part of an existing and operational hospital. The hospital grounds comprise buildings, internal carriageways, car parking and landscaped areas. The Site is bounded by the Great Western Highway to the north, Somerset Street to the east, Derby Street to the south and Parker Street to the west. Land to the east, south and west beyond the adjacent roads is dominated by residential development. To the north beyond the Great Western Highway the land use comprises a mixture of railway lines, industrial / commercial units, a cemetery and residential dwellings.				

Table 13: General Site Details

2.2 Site Condition and Surrounding Environment

A summary description of the Site condition and surrounding environment is presented in the following table.

Issue	Comments		
Topography	The Nepean Hospital is situated at the north end of a North-South trending ridge. The surrounding area is characterised by gently undulating topography ranging between 50-60m AHD. The site of the proposed new Maintenance Depot slopes in a roughly northerly direction. The site of the proposed Oral Health Unit slopes in a roughly north-easterly direction.		
Site Boundary	The boundaries of the Stage 3A development lie		

Table 14: Site Condition and Surrounding Environment





Issue	Comments	
	within the confines of the existing hospital property and are not demarcated by fencing or any other kind of barrier.	
Visible Signs of Contamination	 The general area of Nepean Hospital is largely free from visible signs of contamination. There is a potential for hazardous building materials (asbestos containing materials, lead based paints, polychlorinated biphenyl containing materials) to be present in the Maintenance Depot buildings to be demolished as part of the Stage 3A development. The age of the asphalt on the Site is unknown and there is a possibility that older sections of asphalt may contain coal tar. There is no evidence indicating the presence of underground storage tanks (USTs) within the Stage 3A construction footprint, however a UST is noted on the Dangerous Goods information for the hospital facility which has the potential to impact upon the footprint. 	
Plant Stress	No plant stress observed.	
Presence of Drums, Waste and Fill Materials	No drums or waste encountered. Possible evidence of filling at the location of the existing maintenance depot in the south of the Site.	
Odours	No odours were detected	
Buildings and Roads	The footprints of the proposed new Maintenance Block and the Oral Health unit are all situated on open air car parking areas. These car parks are asphalt paved with some landscaped land. The footprint of the proposed Mental Health Unit is situated on an open air car park in its north and structures comprising the existing maintenance depot in its south. These two structures include a piered single storey steel shed in the east and a steel two storey warehouse structure in the west.	
Surface Water	No open surface water bodies are evident on the Site. Surface water currently drains from roofs, car parks and carriageways into stormwater pipes which extend away from the main site to the north.	
Flood Potential	The land upon which the Site is situated has not been identified as being below the adopted flood planning level (defined as the 1% Annual Exceedance Probability flood level plus 0.5m)	
Local Sensitive Environment	The land does not include or comprise critical habitat. The land is not in a conservation area. The land is affected by a tree preservation order.	





3.0 GEOLOGY AND HYDROGEOLOGY

3.1 Geology and Soils

The 1:100,000 Penrith Geological Series Sheet (9030) defines the underlying geology as mid-Triassic Bringelly Shale which generally comprises undifferentiated shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff. The Sheet also highlighted the potential presence of basalt or dolerite dykes approximately 1.5 kilometres to the south-east of the Site.

The 1:100,000 Penrith Soil Landscape Series Sheet (9030) defines the underlying soils as the Luddenham Group which is of erosional origin. They are characterised by shallow (<1m) dark podzolic soils or earthy massive clays on crests, moderately deep (0.7-1.5m) red podzolic soils on upper slopes, and moderately deep (<1.5m) yellow podzolic soils and prairie soils on lower slopes and drainage lines.

The NSW Natural Resource Atlas does not indicate a risk associated with acid sulphate soils. This is backed up by the CSIRO *Australian Soil Resource Information System* (ASRIS) which classes the soils underlying the Site as C4 – Extremely Low Probability/Low Confidence in relation to acid sulphate soil risk.

The Department of Infrastructure, Planning and Natural Resources 2002 *Map of Salinity Potential in Western Sydney* indicates the possibility of a shallow saline water table being present across the Site. Based upon the Map the majority of the land in the north of the Site has a High Salinity Potential and there is a small area of land in this northern portion which contains a location of Known Salinity. These areas of elevated salinity risk appear to be associated with what is possibly the former alignment of tributary streams of Werrington Creek. The remaining land across the Site has a moderate potential for salinity. This indicates that salinity is a potential risk to development.

3.2 Hydrogeology

A search of the NSW Office of Water Online Bore Inventory has identified a number of locations within relatively close proximity to the Site (less than 3km) and with similar geological characteristics where details regarding sub-surface geology and groundwater are available.

These records are provided in full in Appendix A and summarised in the table below.

Reference	Distance (km)	Direction	Geology (mbgl)	Water Bearing Zones (mbgl)
GW019680	2.2	East	0-11.3m Clay 11.3-16.2m Clay / Shale 16.2-53.3m Shale (with clay seams)	10.9-11.2m (salty) 44.1-44.7m (salty) 52.4-53.3m (salty)
GW020069	2.2	East	0-4.6m Clay 4.6-7.3m Clay / Shale 7.3-75.6m Shale (with clay seams)	7.3-8.8m 57.9-59.4m 72.5-74.6m
GW020547	2.2	East	0-0.9m Topsoil 0.9-9.4m Clay / pebbles 9.4-91.4m Shale	15.2-15.8m 39.6-40.2m (brackish) 43.8-44.4m (salty) 57.3-57.9m (salty)
GW060794	2.5	South-east	0-6.2m Clay 6.2-78.1m Slate or Shale	18.8-18.9m 75.0-75.2m
GW103764	2.5	South-east	0-0.6m Topsoil 0.6-6.4m Clay 6.4-123.4m Shale 123.4-216.4m Sandstone 216.4-217.3m Shale 217.3-231.6m Sandstone	208.0-209.5m 216.5-219.0m
GW108906	2.9	South	0-3.0m Clay	6.5-7.0m

Table 15: Licensed Groundwater Bore Data



Reference	Distance (km)	Direction	Geology (mbgl)	Water Bearing Zones (mbgl)
			3.0-103.0m Shale 103.0-151.0m Sandstone 151.0-154.0m Siltstone 154.0-186.0m Sandstone	126.0-127.0m 157.0-157.5m 181.2-181.3m

While the bores are located a distance from the Site, the bore data indicates that groundwater is found in discrete horizons, typically hosted in relatively shallow (<15m) unconsolidated clays and deeper fractured shale and more permeable sandstone. Groundwater is often recorded as salty or brackish further indicating that salinity may be an issue in the locality of the Site.

3.3 Hydrology

The Site is located in the greater Nepean River catchment area. According to signage around the Site, Penrith Council stormwater drains discharge into the Nepean River, although the point of discharge is not given. Based upon the *1:25,000 Penrith Topographic Map (9030-3-N)* Werrington Creek (located to the east of the Site and flowing in a roughly north-easterly direction) is the closest down-gradient waterway and would be the natural receiver of runoff from the Site. Werrington Creek is a tributary of South Creek, therefore if runoff generated on-Site drains into the Nepean River it is considered that the natural drainage of runoff in the surrounding area has been substantially altered and no longer reflects the topography and inferred natural drainage.





4.0 HISTORICAL RECORDS REVIEW

4.1 Aerial Photographs

A summary of historic aerial photographs and satellite imagery dating from 1947 to 2007 is provided in Table 6 below. Copies of selected aerial photographs are presented in Appendix B.

Date	Description
1947	 Site: The footprint of the hospital grounds appears to predominantly be in use for agricultural purposes. Occasional residential lots are present in the north of the Site and an area of cultivation appears to be present in the south. The majority of the rest of the hospital property (and the footprints of the maintenance depot, dental unit and mental health unit) appears to be in use for grazing. Surrounding area: The hospital property is bounded to the north, east and west by roadways. The railway line is present to the north of the property in its current orientation. Land to the north, east and south is generally in use for agricultural purposes with some scattered residential landuse. Landuse to the west appears to be in use predominantly for residential landuse with some land immediately to the west of the property vacant and possibly in use for grazing. The outline of a waterway is present to the east of the Site and is possibly a tributary of Werrington Creek.
1961	<i>Site:</i> The current property footprint appears to have commenced operation as a hospital since the previous photograph with a number of large buildings present in the central south of the Site and residential structures (possibly staff residences) are located in the north-western corner of the property. The property is accessed from entrances and roadways to the north, west and south. In the north-eastern corner a drainage ditch has been constructed which runs in a linear north-west to south-east direction. The footprints of the maintenance depot, dental unit and mental health unit are undeveloped and partially vegetated. <i>Surrounding area:</i> New residential developments were present beyond the hospital compound to east, south and west. Possible gasometers were situated to the northwest, immediately north of the Great Western Highway.
1970	Site: The hospital has undergone further construction in the central south of the property with the erection of a number of new buildings and some car parking facilities. Evidence of exposed and stockpiled soil in the west and south west of the property indicate ongoing construction works. The footprints of the maintenance depot, dental unit and mental health unit are undeveloped and partially vegetated. Surrounding area: Residential development has continued to the east, south and west. New commercial / industrial development has taken place to the north beyond the Greater Western Highway and the railway line. A cemetery appears to be present to the north-east of the Site.

Table 16: Site History – Aerial Photographs





1982	<i>Site</i> : Further large construction works have taken place in the central area of the property to the west of the central roundabout as well as in the south. The northern access road is no longer present. Car parks have been constructed in the east, south-east and south-west of the property. Some small shed structures appear to be present in the footprint of the proposed maintenance depot. A car park has been constructed in the footprint of the dental unit. A carpark and some shed structures have been constructed in the footprint of the mental health unit. <i>Surrounding areas:</i> Commercial / industrial development has increased to the north (beyond the Great Western Highway). The possible gasometers no longer evident. No further significant changes are evident in the surrounding area.
1994	Site: Substantial new building construction has taken place in the north, west, south-west and south-east of the property. The small shed structures in the previous photograph appear to still be present in the footprint of the proposed maintenance depot. A car park has been constructed in the footprint of the dental unit. A carpark and the existing hospital workshops have since been constructed in the footprint of the mental health unit. Surrounding area: No further significant changes are evident in the surrounding area.
2007	<i>Site</i> : The hospital has been extended to the northwest replacing former residential and commercial buildings. The drainage channel to the north-east has been diverted to make way for construction of new buildings and car parks in this area. The central area of the hospital has undergone significant modification with several former buildings replaced by new construction and car parking. The landuse on the footprints of the mental health unit and the dental unit remain the same since the previous photograph. The footprint of the proposed maintenance depot is currently being utilised as a car park. <i>Surrounding area:</i> No significant landuse changes have taken place around the property since the previous photograph.

4.2 Certificates of Title

A review of historic land titles (Appendix C) has identified that the Site (formerly described as Volume 5382, Folio 243 and Volume 5411, Folio 45) has been owned by the Nepean District Hospital, Penrith since the early 1940s.

Prior to this, the land formerly described as Volume 5382 Folio 243 was partly owned by Frederick Nepean Jones (a Master Tanner by trade).

The current title lists leases that have been granted to Health Care of Australia, Telstra Corporation and the Australian Red Cross Blood Service. Prior title leases have been previously granted to the State Bank of New South Wales and Christensen's Complete Catering Service Pty Ltd.

5.0 REGULATORY RECORDS

5.1 Section 149 (2&5) Planning Certificate

The Section 149 (2) planning certificate (Appendix D) has indicated that the land does not include or comprise, and is not affected by the following:

- Critical habitat;
- Conservation areas;
- Mine subsidence; or





Policy adopted by the Council that restricts the development of land because of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

The land has not been identified as being below the adopted flood planning level. However Penrith Council reserves the right to apply flood related development controls depending on the merits of any particular application.

The land has not been declared an investigation or remediation area under Part 3 of the *Contaminated Land Management Act 1997*, and is not the subject of an investigation or remediation order. The land is not the subject of a voluntary investigation proposal or site audit statement as defined under the Act.

The Section 149 (5) planning certificate (Appendix D) indicates that the land is affected by a tree preservation order.

5.2 Searches under the *Protection of the Environment Operations* Act 1997

A search of licences issued under the *Protection of the Environment Operations Act 1997* (POEO Act) has identified the following licences issued for premises in close proximity to the development areas on the hospital property. No licences have been identified within the footprint of the development areas.

Licence No.	Licensee	Location	Licensed Activity	Waste Types
11417	Healthscope Ltd	Cnr Great Western Highway and Parker St	Hazardous, Industrial or Group A Waste Generation or Storage (>10 – 100t per annum)	Clinical and related wastes (R100) Waste pharmaceutics, drugs and medicines (R120) Cytotoxic wastes (R130)
11253	Sydney West Area Health Service	Cnr Derby St and Parker St	Hazardous, Industrial or Group A Waste Generation or Storage (>10 – 100t per annum)	Clinical and related wastes (R100) Waste pharmaceutics, drugs and medicines (R120) Cytotoxic wastes (R130)

Table 17: Summary of POEO Licences

5.3 WorkCover NSW Dangerous Goods Licensing

A search of the Stored Chemical Information Database (SCID) under Dangerous Goods Licence 35/003838 (Nepean Hospital) was conducted in 2009 and has identified a number of documents held by WorkCover NSW that relate to storage of dangerous goods on the hospital property. This information is presented in full in Appendix E of this report.

The search has identified a number of locations at the hospital where dangerous goods are or have been stored. Details of dangerous goods being stored within or immediately adjacent to the footprint of the Stage 3A construction works are presented in the table below.

Stage 3A Location	Proximity of Dangerous Goods	Depot I.D.	Goods Stored	Documented Quantity
Mental Health	Within footprint	Depot 7	Storage Area Diesel	40 litres
Patient Unit	Approx 100m to East	Depot 11	Storage Area Hypochlorite Solution	10 kilograms

Table 18: Dangerous Goods Information





Stage 3A Location	Proximity of Dangerous Goods	Depot I.D.	Goods Stored	Documented Quantity
	Approx 100m to West	Depot 8	Storage Area Sodium Hydroxide (solid) Sodium Hydroxide (solution)	80 kilograms 40 litres
Maintenance Depot	Immediately to South	Depot 4	Above Ground Tank Compressed Oxygen Storage Area Compressed Oxygen	15,000 litres 10,000 litres





6.0 PHASE 1 CONCLUSIONS

Based on the information reviewed and collected during this investigation we conclude the following:

- No significant potential sources of contamination (past or present) have been identified within the footprints of the respective Stage 3A construction works. However, across the hospital property potentially contaminating past activities could have included the generation, storage and in-ground disposal of wastes produced at the hospital. Waste types may have included clinical, general / domestic, construction, demolition and excavation, and boiler ash waste;
- A diesel UST is present within the hospital property and contamination resulting from the use of this tank has the potential to impact upon the Stage 3A footprint; and
- The potential contaminants of concern (PCoC) associated with possible past activities include the following:
 - heavy metals (including arsenic, cadmium, copper, chromium, lead, mercury, nickel, and zinc);
 - total petroleum hydrocarbons (TPH);
 - benzene, toluene, ethylbenzene and xylenes (BTEX);
 - polycyclic aromatic hydrocarbons (PAHs);
 - organochlorine pesticides (OCPs);
 - polychlorinated biphenyls (PCBs); and
 - asbestos fibres and asbestos containing materials (ACMs).





7.0 PHASE 2 INTRUSIVE INVESTIGATIONS

7.1 Assessment Criteria

It is understood that the Stage 3A development includes a maintenance depot, dental health unit and mental health unit. It is considered appropriate to compare the results of the soil analysis against the health based investigation levels (HILs) for commercial and industrial landuse (NEHF F) provided by NEPM 1999 and NSW DECC Contaminated Sites *Guidelines for the NSW Site Auditor Scheme (2nd edition)*, (DECC 2006).

Where site assessment soil criteria are not provided by DECC 2006, threshold concentrations for soils provided by NSW EPA Contaminated Sites *Guidelines for Assessing Service Station Sites* (EPA1994) have been adopted as conservative screening criteria.

The analytical groundwater results collected from four on-Site wells are to be compared against the Australian and New Zealand Environmental Conservation Council (ANZECC) 2000 Trigger Values for Freshwater (95% protection of species).

The adopted assessment criteria for soils and groundwater are presented in Table 19 below.

Analyte	EPA 1994 (mg/kg)	NEHF F (mg/kg)	ANZECC 2000 (µg/L)
Arsenic (total)	-	500	13
Cadmium	-	100	0.2
Chromium VI	-	500	1.0
Copper	-	5,000	1.4
Lead	-	1,500	3.4
Mercury (inorganic)	-	75	0.6
Nickel	-	3,000	11
Zinc	-	35,000	8.0
Naphthalene	-	-	16
Benzo(a)pyrene	-	5	-
Total PAH	-	100	-
Heptachlor	-	50	-
Aldrin & Dieldrin	-	50	-
Chlordane	-	250	-
DDE, DDD & DDT	-	1,000	-
Total PCB	-	50	-
TPH C ₆ -C ₉	65	-	-
TPH C ₁₀ -C ₄₀	1000	-	-
Benzene	1	-	950
Toluene	130	-	-
Ethyl benzene	50	-	-
Total xylenes	25	-	-
o-Xylene	-	-	350

Table 19: Adopted site criteria- soil

Notes

Chromium VI HIL adopted as conservative value for chromium

For the purpose of classification for off-Site disposal the results of the laboratory analysis were compared against the criteria presented in Table 1 and Table 2 of the NSW DECC *Waste Classification Guidelines*. It should be noted that these criteria relate to sample analysis which have not been conducted alongside leachability testing for all analytes except heavy metals (see Table 6) where additional TCLP (leachability) testing was carried out.



8.0 INVESTIGATION RESULTS

8.1 Subsurface Conditions

The following description of the subsurface condition is based on results of the subsurface environmental investigation in conjunction with data from the associated geotechnical investigation, Reference No. 107622059_002_R_Rev0, dated 26 May 2010). Borehole logs are presented as Appendix F of this report.

The results of the geotechnical investigation confirm the site to be covered by a layer of fill of up to 2.0 m thickness (BHB) underlain by a typically about 1.5 to 2 m deep residual soil profile over weathered rock (Bringelly Shale Formation).

Based on the findings from the borehole excavations, the subsurface residual soil profile consists of high plasticity stiff to very stiff clay in a dry to moist condition, becoming hard with depth and containing traces of ironstone gravel. The underlying rock comprises interbedded shale, sandstone, laminite and siltstone over shale. This rock varied between extremely and moderately weathered and between extremely low and medium strength and contained some clay seams and shear zones. Below this the moderately weathered shale increased to generally medium strength.

The subsurface conditions encountered across the three proposed development areas have been divided into subsurface Units based on their engineering properties. These Units are described below in Table 20.

Subsurface Unit	Description
Asphalt/Concrete	Fine to coarse igneous aggregate, varied strength of asphalt, with some bitumen seals
Topsoil / Fill	Silty CLAY, medium to high plasticity, red brown and grey, with some sand and gravel. Zones of Clayey SAND and Silty SAND dark grey topsoil
Residual Soil	Silty CLAY (and zones of Sandy Silty CLAY), high plasticity, red-brown to pale grey. Encountered generally dry to moist and stiff to hard consistency
Rock Unit 1	Extremely Weathered Bedrock (Class V)# Interbedded LAMINITE and SHALE, extremely low to very low strength, pale grey/ grey and brown, with some clay
Rock Unit 2	Extremely to Highly Weathered Bedrock (Class IV)# Interbedded LAMINITE and SHALE, very low to medium strength, dark grey to grey and brown, with some clay seams and shear zones
Rock Unit 3	Moderately Weathered Bedrock (Class IV - III)# Interbedded LAMINTIE, SHALE and SANDSTONE, medium to high strength, grey and dark grey, containing some highly weathered zones

Table 20: Summary of General Subsurface Conditions

Inferred from Pells et al "Foundations on Sandstone and Shale in the Sydney Region" published in the Australian Geomechanics Journal, 1998

Bore data indicates that groundwater is found at depths in excess of 6.5 m in discrete horizons typically hosted in relatively shallow (<15m) clays and deeper fractured shale and more permeable sandstone. Groundwater is often recorded as salty or brackish. Groundwater at the site is therefore likely to occur in discrete water bearing zones within the Bringelly Shale at depths greater than 5m below surface and separated by relatively impermeable clay and shale sequences.





8.2 Field Screening - Volatile Organic Compounds (VOCs)

Samples were screened for the presence of VOCs using a PID fitted with a 10.6 eV lamp. The PID provides a relative indication of the presence of VOCs in the soil sample to assist in sample selection for laboratory analysis.

The PIDs were calibrated prior to use in accordance with the manufacturer's instructions using standard isobutylene gas at concentrations of 99.9 parts per million (ppm).

PID results are included on the borehole logs. PID calibration records are presented in Appendix I with the Quality Assurance / Quality Control report. Elevated PID concentrations were not detected in any screened samples. Sample screening results ranged from 0.0ppm to 8.5ppm indicating low probability of VOC contamination.

8.3 Laboratory Results - Soil

Laboratory analysis was carried out by Envirolab Services (ELS) which is accredited by the National Association of Testing Authorities (NATA) for the tests performed.

The analytical program is summarised in Table 1 (Appendix H). Forty (40) soil samples were analysed for selected contaminants of concern (metals, OCPs, PCBs, TPH, BTEX, PAHs, and Asbestos). The results are summarised in Tables 2 to 7 (Appendix H). The practical quantification limit for all analyses is suitable for the comparison of results to the adopted criteria, thus samples below the PQL are below the criteria.

The results for the samples analysed were largely below the adopted criteria for reuse on-Site where the Site is to be used for commercial/industrial purposes. The results also indicate that with the exception of the soil around BHA, the soil is suitable for off-Site disposal as **General Solid Waste** for all samples analysed.

Asbestos was detected in the sample BHA-1 (refer Table 7). The soil around BHA/1 should be removed from the Site as **Special Waste (asbestos)** by an appropriately licensed contractor.

The potential for further asbestos being present in the fill requires further inspection during excavation and confirmation of validation or waste classification.

A summary of the classification of the subsurface units encountered at the site is presented in Table 12 (Appendix H).

8.4 Laboratory Results – Groundwater

Laboratory analysis was carried out by Envirolab Services (ELS) which is accredited by the National Association of Testing Authorities (NATA) for the tests performed. Laboratory certificates are presented in Appendix G of this report.

The analytical program is summarised in Table 1 (Appendix H). Four (4) groundwater samples were analysed for selected contaminants of concern (metals, TPH, BTEX and PAHs). The results are summarised in Tables 8 to 10 (Appendix H). The practical quantification limit for all analyses is suitable for the comparison of results to the adopted criteria, thus samples below the PQL are below the criteria.

The samples collected from MW102 and BHC held concentrations of the selected analytes below the adopted groundwater criteria (ANZECC 2000). The samples collected from BHF and BHI held concentrations of heavy metals (copper in BHF and copper, nickel and zinc in BHI) which exceeded the adopted criteria. Groundwater samples from MW102 and BHI held concentrations of BTEX which were elevated above the laboratory detection limits but did not exceed the criteria. The groundwater sample from BHI also held concentrations of TPH (C_6 - C_9 and C_{10} - C_{14} fractions) which were elevated above the laboratory detection limits are available from NSW DECCW.





9.0 QUALITY ASSURANCE/ QUALITY CONTROL

9.1 Field QA/QC

The fieldwork for this investigation was performed in accordance with Golder Standard Quality Procedures. This included collection of samples in new containers supplied by the laboratory, preservation of samples in ice chests and transport of samples to the contract laboratories under chain of custody documentation.

9.2 QA/QC Data Evaluation

The results of the quality control data generated have been presented in Table 8. The quality control sample included the following:

- Four (4) intra-laboratory soil duplicates, analysed for heavy metals, OCPs, PCBs, TPH, BTEX and PAH; and
- One (1) intra-laboratory groundwater duplicate, analysed for heavy metals, TPH, BTEX and PAH.

A total of 44 primary samples and five quality control sample were analysed. The results of all samples scheduled for analysis were received. The RPDs that could be calculated ranged from 0.0% to 52.2%. Of the 36 RPD pairs that could be calculated 35 were within the targeted range of 0.0% to 50.0%. This is considered acceptable data quality for the purposes of the investigation.

The internal laboratory QA/QC results are presented with the laboratory certificates and are considered acceptable based on the duplicate and control samples analysed. The results are considered to be of acceptable quality for the purposes of this assessment. Appendix I includes a detailed data quality assessment for the project.





10.0 CONCLUSION AND RECOMMENDATIONS

Based on the results of field investigations and laboratory sample analysis, the following conclusions can be made regarding the subsurface conditions at the Site:

- The results of the geotechnical investigation confirm the site to be covered by a layer of fill of up to 2.0 m thickness (BHB) underlain by residual soil profile typically about 1.5 to 2 metres deep over weathered rock (Bringelly Shale Formation);
- The desktop assessment and analytical results presented in the geotechnical assessment indicate the presence of saline soils and groundwater on the Site;
- Dangerous goods information reviewed as part of the desktop assessment indicate the presence of potential contamination sources (e.g. the diesel UST in the centre of the hospital property) in close proximity to or within the footprints of the mental health unit and the maintenance depot;
- Based on the results of the Phase 1 and Phase 2 Environmental Site Assessment, the area of investigation is considered to have low likelihood of extensive soil contamination and low risk to human health. The majority of the soils represented by the analysed samples are classified as General Solid Waste (non putrescible) in relation to off-Site disposal. This applies to the fill layer and underlying natural soil and rock. The natural soil and rock also classify as Virgin Excavated Natural Materials (VENM) and can be retained on site. One fill layer sample contained asbestos (BHA-1). Fill soil excavated in this area should be inspected to determine the extent of impacted material that is to be removed from the Site as Special Waste (asbestos) by a licensed contractor;
- In accordance with WorkCover guidelines, the fill layer excavations with potential to contain asbestos should be assessed by a consultant (qualified hygienist) for the presence of asbestos impacted material. All identified materials should be appropriately managed and removed as Special Waste (asbestos) by an appropriately licensed contractor; and
- The results of groundwater monitoring across the Site indicate the presence of TPH and BTEX in the groundwater on the Site as well as concentrations of heavy metals which exceed the adopted criteria for the Site. The TPH and BTEX results do not exceed the adopted criteria for the Site but indicate the possibility of on-Site contamination resulting from past or current landuses (e.g. storage and use of fuel). It is considered that the elevated heavy metal concentrations are the result of the underlying geology on the Site (Bringelly Shales) which is known as a potential source of metals in groundwater.





11.0 REPORT LIMITATIONS

Your attention is drawn to the document "Limitations", which is included in Appendix J of this report. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.



Report Signature Page

GOLDER ASSOCIATES PTY LTD

Ian M'Lennan

Ian McLennan Senior Environmental Scientist

JAH/IMM/jah

A.B.N. 64 006 107 857

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PROJECT No	DOC No	DOC TYPE	FIGURE No	REV No	
107622059	2	R	F0002	0	FIGURE 2















Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW103764

Works Details (top)

GROUNDWATER NUMBER	GW103764
LIC-NUM	10BL157484
AUTHORISED-PURPOSES	IRRIGATION
INTENDED-PURPOSES	IRRIGATION
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	1995-10-06
FINAL-DEPTH (metres)	231.60
DRILLED-DEPTH (metres)	231.60
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	POLESE
GWMA	- SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	
SALINITY	
YIELD	
0 4 D 4 H 4 N	
Site Details (<u>top)</u>	
REGION 10 -	SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING 625	9844.00
EASTING 289	362.00
LATITUDE 33 4	6' 50"
	6' 50" 43' 31"

AMG-ZONE 56 COORD-SOURCE REMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	1//239091

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	1 239091

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1		Hole	Hole	0.00	167.50	171			Rotary Air
1		Hole	Hole	167.50	231.60	151			Rotary Air
1	1	Casing	Stainless Steel	0.00	167.80	140			C: 0- 167.8m; Welded; Suspended in Clamps

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO-DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	w-	D-	YIELD	TEST-HOLE- DEPTH (metres)	DURATION SALINITY
208.00	209.50	1.50				0.42	214.00	1.00
216.50	219.00	2.50				0.83	230.00	1.00

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	0.60	0.60	TOPSOIL		
0.60	6.40	5.80	CLAY		
6.40	11.20	4.80	SHALE		
11.20	123.40	112.20	SHALE		
123.40	216.40	93.00	SANDSTONE		
216.40	217.30	0.90	SHALE		
217.30	231.60	14.30	SANDSTONE		

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Print Report

Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW060794

Works Details (top)

	014/000704
GROUNDWATER NUMBER	GVV000794
LIC-NUM	10BL132249
AUTHORISED-PURPOSES	DOMESTIC STOCK
INTENDED-PURPOSES	DOMESTIC STOCK
WORK-TYPE	Bore open thru rock
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary Air
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	1985-02-01
FINAL-DEPTH (metres)	78.10
DRILLED-DEPTH (metres)	78.10
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	- SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9030-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6259780.00
EASTING	289484.00
LATITUDE	33 46' 52"
LONGITUDE	150 43' 35"
GS-MAP	0056C4

AMG-ZONE 56 COORD-SOURCE GD.,ACC.MAP REMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	L15 DP263498 (12)

Licensed (top)

COUNTYCUMBERLANDPARISHCLAREMONTPORTION-LOT-DP15 263498

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- W- L	D- D- L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION SALINITY
18.80	18.90	0.10	Fractured			0.02		(Unknown)
75.00	75.20	0.20	Fractured			0.06		(Unknown)

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL C	OMMENT
0.00	6.20	6.20	Clay		
6.20	78.10	71.90	Slate Or Shale		

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Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW020547

Works Details (top)

GROUNDWATER NUMBER	GW020547
LIC-NUM	10BL013346
AUTHORISED-PURPOSES	WASTE DISPOSAL
INTENDED-PURPOSES	WASTE DISPOSAL
WORK-TYPE	Bore open thru rock
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Cable Tool
OWNER-TYPE	Federal Govt
COMMENCE-DATE	
COMPLETION-DATE	1963-06-01
FINAL-DEPTH (metres)	91.40
DRILLED-DEPTH (metres)	91.40
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9030-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6262327.00
EASTING	290380.00
LATITUDE	33 45' 30"
LONGITUDE	150 44' 12"
GS-MAP	0056C4

AMG-ZONE 56 COORD-SOURCE GD.,ACC.MAP REMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Licensed (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	Threaded Steel	-0.30	28.00	152			(Unknown)

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S- D· D· W-L L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
15.20	15.80	0.60	Fractured					(Unknown)
39.60	40.20	0.60	Fractured	9.10	0.19			Brackish
43.80	44.40	0.60	Fractured		0.06			Salty
57.30	57.90	0.60	Fractured		0.06			Salty

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	0.91	0.91	Topsoil	
0.91	9.14	8.23	Clay Yellow	
0.91	9.14	8.23	Pebbles	
9.14	13.71	4.57	Shale Grey	
13.71	91.44	77.73	Shale Black Water Supply	

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Print Report

Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW020069

Works Details (top)

GROUNDWATER NUMBER	GW020069
LIC-NUM	10BL012538
AUTHORISED-PURPOSES	WASTE DISPOSAL
INTENDED-PURPOSES	WASTE DISPOSAL
WORK-TYPE	Bore open thru rock
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Cable Tool
OWNER-TYPE	Federal Govt
COMMENCE-DATE	
COMPLETION-DATE	1962-06-01
FINAL-DEPTH (metres)	75.50
DRILLED-DEPTH (metres)	75.60
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9030-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6262298.00
EASTING	290458.00
LATITUDE	33 45' 31"
LONGITUDE	150 44' 15"
GS-MAP	0056C4

AMG-ZONE56COORD-SOURCEGD.,ACC.MAPREMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Licensed (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1	1	Casing	(Unknown)	0.00	64.60	152			Suspended in Clamps
1	1	Opening	Slots	7.30	8.80	152		1	SL: 0mm; A: 0mm
1	1	Opening	Slots	57.90	59.40	152		2	SL: 0mm; A: 0mm

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S- W-L	D- D- YIELD DE	EST- OLE- EPTH DURATION netres)	SALINITY
7.30	8.80	1.50	Unconsolidated		0.03		(Unknown)
57.90	59.40	1.50	(Unknown)	9.10	0.13		(Unknown)
72.50	74.60	2.10	(Unknown)	6.00	0.25		(Unknown)

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	2.13	2.13	Clay	
2.13	4.57	2.44	Clay Coloured	
4.57	7.31	2.74	Clay Shale	
7.31	8.83	1.52	Clay Sticky Water Supply	
8.83	51.20	42.37	Shale Light Coloured	
51.20	59.43	8.23	Shale Dark Water Supply	
51.20	59.43	8.23	Clay Seams	
59.43	60.65 1.22	Shale Dark		
-------	------------	--------------------------------		
60.65	63.70 3.05	Shale		
60.65	63.70 3.05	Sandstone Yellow Streaks		
63.70	72.54 8.84	Shale Light Orange		
72.54	74.67 2.13	Shale Dark Orange Water Supply		
72.54	74.67 2.13	Clay Seams		
74.67	75.59 0.92	Shale Dark Orange		

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Print Report

Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW019680

Works Details (top)

GROUNDWATER NUMBER	GW019680
LIC-NUM	10BL012376
AUTHORISED-PURPOSES	TEST BORE
INTENDED-PURPOSES	WASTE DISPOSAL
WORK-TYPE	Bore open thru rock
WORK-STATUS	Test Hole
CONSTRUCTION-METHOD	Cable Tool
OWNER-TYPE	Federal Govt
COMMENCE-DATE	
COMPLETION-DATE	1962-04-01
FINAL-DEPTH (metres)	53.30
DRILLED-DEPTH (metres)	53.30
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	603 - SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	
SALINITY	
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	212 - HAWKESBURY RIVER
AREA-DISTRICT	
CMA-MAP	9030-3N
GRID-ZONE	56/1
SCALE	1:25,000
ELEVATION	
ELEVATION-SOURCE	(Unknown)
NORTHING	6262298.00
EASTING	290432.00
LATITUDE	33 45' 31"
LONGITUDE	150 44' 14"
GS-MAP	0056C4

AMG-ZONE56COORD-SOURCEGD.,ACC.MAPREMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Licensed (top)

COUNTY	CUMBERLAND
PARISH	LONDONDERRY
PORTION-LOT-DP	109

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT- CODE	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm)	INTERVAL	DETAIL
1			Threaded Steel		42.90	152			Suspended in Clamps

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK-CAT- DESC	S-W- D- L D- L L	YIELD	TEST- HOLE- DEPTH (metres)	DURATION SALINITY	
10.90	11.20	0.30	Unconsolidated	10.90	0.03		Salty	
44.10	44.70	0.60	Fractured	10.90	0.19		Salty	
52.40	53.30	0.90	Fractured	10.90	3.54		Salty	

Drillers Log (top)

FROM	то	THICKNESS	DESC	GEO-MATERIAL COMMENT
0.00	11.27	11.27	Clay Water Supply	
11.27	16.15	4.88	Clay Shale	
16.15	44.19	28.04	Shale Hard	
44.19	44.80	0.61	Shale Water Supply	
44.80	50.29	5.49	Shale Dark	
50.29	52.42	2.13	Shale Clay Seams	
52.42	53.34	0.92	Shale Water Supply	

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Groundwater Works Summary

For information on the meaning of fields please see <u>Glossary</u> Document Generated on Friday, November 28, 2008

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW108906

Works Details (top)

GROUNDWATER NUMBER	GW108906
LIC-NUM	10BL602079
AUTHORISED-PURPOSES	RECREATION (GROUNDWATER)
INTENDED-PURPOSES	RECREATION (GROUNDWATER)
WORK-TYPE	Bore
WORK-STATUS	
CONSTRUCTION-METHOD	Rotary Air
OWNER-TYPE	Private
COMMENCE-DATE	
COMPLETION-DATE	2008-06-11
FINAL-DEPTH (metres)	186.00
DRILLED-DEPTH (metres)	186.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	PENRITH CHRISTIAN LIFE CENTRE
GWMA	- SYDNEY BASIN
GW-ZONE	- TOMAGO
STANDING-WATER-LEVEL	. 30.00
SALINITY	2410.00
YIELD	1.10
Site Details (top)	
REGION 10 -	SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
	9328.00
	656.00
	7' 6"
	42' 24"
GS-MAP	

AMG-ZONE 56 COORD-SOURCE REMARK

Form-A (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	11 831409

Licensed (top)

COUNTY	CUMBERLAND
PARISH	CLAREMONT
PORTION-LOT-DP	11 831409

Construction (top)

Negative depths indicate Above Ground Level;H-Hole;P-Pipe;OD-Outside Diameter; ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity

HOLE- NO	PIPE- NO	COMPONENT-	COMPONENT- TYPE	DEPTH- FROM (metres)	DEPTH- TO (metres)	OD (mm)	ID (mm) INTERVA	L DETAIL
1		Hole	Hole	0.00	2.50	204		Rotary Air
1		Hole	Hole	2.50	150.00	165		Down Hole Hammer
1		Hole	Hole	150.00	186.00	162		Down Hole Hammer
1	1	Casing	Steel	-0.30	2.70	162	152.4	Suspended in Clamps
1	1	Casing	PVC Class 12	-0.30	48.90	114		Screwed and Glued; Suspended in Clamps

Water Bearing Zones (top)

FROM- DEPTH (metres)	TO- DEPTH (metres)	THICKNESS (metres)	ROCK- CAT- DESC	S_W	D- D- YIELC -	TEST- HOLE- DEPTH (metres)	DURATION	SALINITY
6.50	7.00	0.50			0.40		0.25	10000.00
126.00	127.00	1.00			0.10		0.25	10000.00
157.00	157.50	0.50			0.50		0.25	5480.00
181.20	181.30	0.10		30.00	1.10		0.25	2410.00

Drillers Log (top)

FROM	то	THICKNESS	DESC
0.00	3.00	3.00	CLAY BROWN

GEO-MATERIAL COMMENT

3.00	5.00	2.00	SHALE BROWN
5.00	6.50	1.50	SHALE GREY
6.50	7.00	0.50	SHALE SOFT
7.00	21.00	14.00	SHALE GREY
21.00	28.00	7.00	SHALE BLACK
28.00	29.00	1.00	SHALE SOFT
29.00	34.00	5.00	SHALE BLACK
34.00	103.00	69.00	SHALE HARD
103.00	106.00	3.00	SANDSTONE AND SHALE BEDDING
106.00	126.00	20.00	SANDSTONE GREY
126.00	127.00	1.00	SANDSTONE FINE QUARTZ
127.00	151.00	24.00	SANDSTONE GREY
151.00	154.00	3.00	SILTSTONE HARD
154.00	157.00	3.00	SANDSTONE HARD
157.00	157.30	0.30	SANDSTONE FINE QUARTZ
157.30	164.00	6.70	SANDSTONE GREY
164.00	164.50	0.50	SANDSTONE FINE QUARTZ
164.50	181.20	16.70	SANDSTONE GREY
181.20	181.30	0.10	SANDSTONE FRACTURED
181.30	186.00	4.70	SANDSTONE GREY

Warning To Clients: This raw data has been supplied to the Department of Infrastructure, Planning and Natural Resources (DIPNR) by drillers, licensees and other sources. The DIPNR does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.



APPENDIX B Historical Aerial Photographs

1st July 2010 Report No. 107622059-003-R-Rev0























Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

FOLIO: 1/1114090

First Title(s): OLD SYSTEM VOL 5382 FOL 243 Prior Title(s): VOL 5382 FOL 243 VOL 5411 FOL 45

Recorded	Number	Type of Instrument	C.T. Issue
		——— —————————————	
5/9/2008	DP1114090	DEPOSITED PLAN	FOLIO CREATED EDITION 1

*** END OF SEARCH ***

GOL; DER

PRINTED ON 1/12/2008

*ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.



Searchlink hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act. Information provided through Tri-Search an approved LPINSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 1/1114090

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| SEARCH DATE | TIME     |
|-------------|----------|
|             |          |
| 1/12/2008   | 11:25 AM |

EDITION NO DATE -----1 5/9/2008

LAND

LOT 1 IN DEPOSITED PLAN 1114090 AT KINGSWODD LOCAL GOVERNMENT AREA PENRITH PARISH OF MULGOA COUNTY OF CUMBERLAND TITLE DIAGRAM DP1114090 JOB NO. GOLDER ASSOCIATES PTY LTD 03 DEC 2008 SYDNEY OFFICE

FIRST SCHEDULE

\_\_\_\_\_

SYDNEY WEST AREA HEALTH SERVICE

SECOND SCHEDULE (9 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 LAND EXCLUDES MINERALS WITHIN THE PART SHOWN SO INDICATED IN THE TITLE DIAGRAM - SEE CROWN GRANT(S)
- 3 G354107 EXCEPTING THE LAND IN RESUMPTION WITHIN THE PART SHOWN IN VOL 5411 FOL 45
- 4 K560811 EASEMENT FOR WATER SUPPLY 4.527 METRE(S) WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 AA745331 LEASE TO HCOA OPERATIONS (AUSTRALIA) PTY LIMITED OF THE PART OF LOT 122 IN DP14333 SHOWN IN PLANS (PAGES 4 & 6) WITH AA745331. EXPIRES: 30/6/2008.
- AA756137 LEASE TO HCOA OPERATIONS (AUSTRALIA) PTY LIMITED OF THE PART OF LOT 122 IN DP14333 SHOWN IN PLANS (PAGES 4 & 6) WITH AA745331. COMMENCES: 1/7/2008. EXPIRES: 30/6/2013.
- 7 AC483900 LEASE TO THE AUSTRALIAN RED CROSS BLOOD SERVICE OF NEPEAN HOSPITAL CAMPUS, LEVEL 1, A NODE WEST BLOCK, PARKER STREET, PENRITH. EXPIRES: 17/10/2015.
- 8 AD824001 LEASE TO TELSTRA CORPORATION LIMITED OF PART OF LOTS 213, 214 & 292 SHOWN HATCHED IN PLAN WITH AD824001. EXPIRES: 28/2/2013. OPTION OF RENEWAL: 5 YEARS WITH 1 FURTHER PERIOD OF 5 YEARS.
- 9 DP1114090 EASEMENT TO DRAIN WATER 6.5 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

NOTATIONS

UNREGISTERED DEALINGS: NIL

\*\*\* END OF SEARCH \*\*\*

GOLDER

#### PRINTED ON 1/12/2008

\*ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

| UNDER THE PUBLIC COADS ACT 1902.)<br>(UNDER THE PUBLIC ROADS ACT 1902.)<br>(SECORGE 11. by the Grare of Gad, of Great Writain. Freiand, and i<br>Bunimions heyond the Seau, King, Befender of the Kaith En<br>Bunimient in mhom these Fresents shall come. Greeting,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |
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| tain roads comprising the piece or parcel of lan<br>ating to Unnecessary Roads in Our State of Ne<br>Nation and Nequencial Land Theorem<br>e sum of Need Net Local Land Board<br>reof as determined by the Local Land Board<br>into the Treasury of Our said State before these<br>fistersy Graver unto the said Ching Wence a<br>the Reservations and Exceptions hereinafter com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | bute<br>half<br>by<br>the |
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0 in fur in fur in fur in any any in any any ina with f witch f wire dan 21 E 2 E 2 Iffthress Our Right Trusty and Well-beloved JOHN DR VERR, BARON WAKREURST, Knight Commander of Our Most Distinguished Order of Saint Michael and Saint George, Captain in the Reserve of Officers of Our Territorial Army, Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this Kerley-and in the year of Our Lord one thousand much nucleid and forty-three. centators w d and to see ys trantway det **Anh** : mer **Anh** : mer with : ether with : easilmer th We have XXX The Coproduction of the source of the second second second second second second second which the source of the second sec Janua Valan W. unto the said block for the CIPH ND margin hereof With all the Rights and Appurtenances whatseever thereto belonging -Stories 3 the. 1812 I.V. see See 1400 94 1 1

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451 THE NEFEAN DISTRICT HOSPITAL FENRITH, Transferee under Instrument of Transfer No.D242722 is now the proprietor of an Estate in Fee Simple subject nevertheless to the reservations and conditions if any contained in the Grant here-an Estate in Fee Simple subject nevertheless to the reservations and conditions if any contained in the Grant here-inafter referred to and also subject to such encumbrances liens and interests as are notified hereon in Those pieces of land situated in the Municipality of Fenrith Parish of Muigos and County of Cumberland containing Thirty two of land situated in the Municipality of Fenrith Parish of Muigos and County of Cumberland containing Thirty two for stand situated in the Municipality of Fenrith Parish of Muigos and County of Cumberland containing Thirty two of land situated in the Municipality of Fenrith Parish of Muigos and County of Cumberland containing Thirty two of land situated in the Municipality of Fenrith Parish of Muigos and County of Cumberland containing Thirty two to 208 inclusive lots 77 to 87 inclusive lasts llLato.136 inclusive lots 187 to 226 inclusive and lots 279 to 298 inclusive in Deposited Plan No.14353 and being parts of 470 acres (Fortion 48 of Farish) originally granted to John Best by Crown Grant dated the 24th day of January 1817. 1944. APUTER FOLIO NO FURTHER N Kegnoten Hre CANCELLED 61 Registrar General. 4707 7.42 REGISTERED PROPRIETOR WEATHAGATA 14 990 [CERTIFICATE OF TITLE.] For. 45 day of ervice exch land in 3 5411 IN WITNESS whereof I have hereunto signed my name and affixed my Seal this durenty nucle 1991 1 530168 10 Vol. are land in Wales. ind × AC. COL The land shown by Black Hatching in the plan hercon being Lot 13 Ju D. P. 213461 is subject to the restrictions on user imposed by Section 27 E (6) Main Roads Act 1924-1960. See No. J 187842 Entered 10th May 1963 Acw South TORANGPOAN District Hospilalass as agaid Fet 13 g REGISTRAR GENERAL the X Tradeline eccepting lot 13 DP 213461 and 200 Rages Herel againeta unpeter Signed in the presence of U.P. Fruen 6-26 220 Q 1956 at 12 K 540/ 5322343 Reference to last certificate 2° 5 01 U33. e the Legistia hatice of a the eg. E 724 and 5727 19th Bu with it is ROPRIE Vol. 3332 Fol. 240 J rith duced le that sa G354107 Appns i Nos. In the 171 No. G ## to

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# APPENDIX D Section 149 (2) & (5) Certificate



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PO Box 60 Penrith NSW 2751 To DX 8017 Penrith F Email: pencit@penrithcity.nsw.gov.au

PENRITH CITY COUNCIL Serving Our Community

Property No:

PLANNING CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979

| Your Refer | ence: 087623133 Post |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|----------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact No | : 0448 282 605       | Issue Date:<br>Certificate No: | 2/12/2008<br>08/04410                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|            |                      | Receipt Date:                  | 1/12/2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|            |                      | Receipt No:                    | 2313437                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Issued to: | Matt Uttley          |                                | COMES OFFICE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|            | ST LEONARDS NSW 20   |                                | an Ald SBMCOSSY MODEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|            | DESC                 | RIPTION OF LAND                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| County:    | CUMBERLAND           | Parish: MU                     | LGOA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Location:         | Nepean District Hospital 35-65 Derby Street KINGSWOOD |
|-------------------|-------------------------------------------------------|
|                   | NSW 2747                                              |
| Land Description: | Lot 1 DP 1114090                                      |

#### - PART 1 PRESCRIBED MATTERS -

In accordance with the provisions of Section 149(2) of the Act the following information is furnished in respect of the abovementioned land:

## 1 NAMES OF RELEVANT SEPPs, REPS, LEPs AND DCPs

# 1(1)(a) The names of each local environmental plan and deemed environmental planning instrument applying to the land:

Penrith Local Environmental Plan 1998 (Urban Land), gazetted 8 January 1999, as amended, applies to the land.

Penrith Local Environmental Plan No. 255 – Exempt and Complying Development, gazetted 24 March 2000, as amended, (also) applies to land within the City of Penrith. (Note: This plan does not apply to the land to which Sydney Regional Environmental Plan No.30 – St Marys applies, except as provided by clause 43 of SREP No. 30 – St Marys.)

Penrith Local Environmental Plan No. 258 – Consent for Dwelling Houses and Other Development, gazetted 29 June 2001, (also) applies to all land within the City of Penrith.

# 1(1)(b) The names of each draft local environmental plan applying to the land that has been placed on exhibition under section 66(1) (b) of the Act:

Draft Penrith Local Environmental Plan 1998 (Urban Land) - Amendment No. 17 applies to all land covered by Penrith Local Environmental Plan 1998 (Urban Land). The draft plan aims to amend Penrith Local Environmental Plan 1998 (Urban Land):

Certificate No. 08/04410

Lot 1 DP 1114090



PO Box 60 Penrith NSW 2751ToDX 8017 PenrithFEmail: pencit@penrithcity.nsw.gov.au

#### PLANNING CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979

- (a) to clarify the aims and objectives of the plan;
- (b) to add a provision regarding the minimum width for an access corridor or right of carriageway, and
- (c) to update a number of requirements applying to the Zone No. 2(c) Residential (Low-Medium Density), and
- (d) to update the solar design principles as applying to all new dwellings and dwelling houses, and
- (e) to add provisions that ensure developments are adequately serviced, and
- (f) to update a number of existing definitions and add a new definition. (See attached copy.)

# 1(1)(c) The names of each development control plan applying to the land that has been made by the relevant planning authority under Division 6 of Part 3 of the Act (including any made by the council under section 72, or the Director-General under section 51A, before the repeal of those sections):

Penrith Development Control Plan 2006 applies to the land.

# 1(2)(a) The names of each regional environmental plan applying to the land:

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, applies to the local government area of Penrith (except land to which Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme applies).

# 1(2)(b) The names of each draft regional environmental plan applying to the land that has been placed on exhibition under section 47(b) of the Act:

No draft regional environmental plan that has been placed on exhibition under section 47(b) of the Act applies to the land.

# 1(3)(a) The names of each State environmental planning policy applying to the land:

The names of each State environmental planning policy applying to the land are:

State Environmental Planning Policy No. 1 - Development Standards.

State Environmental Planning Policy No. 4 - Development Without Consent and Miscellaneous Exempt and Complying Development. (Note: This policy may not apply to land reserved for certain public purposes. See clause 4 of the policy).

State Environmental Planning Policy No. 6 - Number of Storeys in a Building.

State Environmental Planning Policy No.10 - Retention of Low-Cost Rental Accommodation.

State Environmental Planning Policy No. 19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916).

State Environmental Planning Policy No. 21 - Caravan Parks.

State Environmental Planning Policy No. 22 - Shops and Commercial Premises.

State Environmental Planning Policy No. 30 - Intensive Agriculture.

State Environmental Planning Policy No. 32 - Urban Consolidation (Redevelopment of Urban Land). (Note: This policy does not apply to land identified as coastal protection, environmental protection, escarpment, floodway, natural hazard, non-urban, rural, rural residential, water catchment or wetland.)

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development.

State Environmental Planning Policy No. 48 - Major Putrescible Landfill Sites.

State Environmental Planning Policy No. 50 - Canal Estate Development. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 1998 (Lakes Environs) and Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme apply.)

State Environmental Planning Policy No. 55 - Remediation of Land.

State Environmental Planning Policy No.64 - Advertising and Signage.



## PLANNING CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979

State Environmental Planning Policy No.65 - Design Quality of Residential Flat Development.

State Environmental Planning Policy No. 70 - Affordable Housing (Revised Schemes).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.

State Environmental Planning Policy (Major Projects) 2005.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

State Environmental Planning Policy (Temporary Structures and Places of Public Entertainment) 2007.

State Environmental Planning Policy (Infrastructure) 2007.

# 1(3)(b) The names of each draft State environmental planning policy applying to the land that has been publicised as referred to in section 39(2) of the Act:

Draft State Environmental Planning Policy (SEPP 66) - Integrated Landuse and Transport applies to the land.

Draft State Environmental Planning Policy (Application of Development Standards) 2004 applies to the land.

Draft State Environmental Planning Policy (Repeal of Concurrence and Referral Provisions) 2008 applies to the land.

#### 2 ZONING AND LAND USE UNDER RELEVANT LEPs

2(a)-(d) For each local environmental plan, deemed environmental planning instrument and draft local environmental plan applying to the land that includes the land in any zone (however described): the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. If these sections apply to the land details are shown below and/or in annexures.

Under the terms of Penrith Local Environmental Plan 1998 (Urban Land) the land is zoned as Zone No.5(a) Special Uses (Hospital)

(a) Objectives of the zone

To facilitate certain development on land which is, or is proposed to be, used by public authorities, institutions, organisations or the council to provide and protect services, utilities or transport facilities and associated activities.

(b)(i) Without development consent

Nil

(b)(ii) Only with development consent

- the particular purpose indicated by lettering on the map and any purpose ordinarily incidental or ancillary to that purpose.
- drains
- landscaping
- public parks and gardens
- roads
- utility installations

Certificate No. 08/04410

Lot 1 DP 1114090



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#### **PLANNING CERTIFICATE UNDER SECTION 149**

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• utility undertakings

#### (b)(iii) Prohibited

Any land use other than those included in item (b)(ii).

Note:

(1) Despite any other provisions of Penrith Local Environmental Plan 1998 (Urban Land), a person may carry out development for the purpose of any one or more of the following on any land to which this plan applies without the consent of the Council:

- (a) an internal window display;
- (b) any advertisement erected on land that is not visible from outside the land (but not an advertisement on a heritage item or on a site within a heritage conservation area);
- (c) a temporary advertisement, being one which is displayed for a period not exceeding 2 months in total in any one year;
- (d) a public notice in a public place;
- (e) a road safety or advisory sign;
- (f) a specific sign directing the travelling public to buildings or places of tourist interest.

(Clause 31 of the LEP.)

(2) Land to which Penrith Local Environmental Plan 1998 (Urban Land) applies may be subdivided only with development consent.

(Clause 34 of the LEP.)

## Penrith Local Environmental Plan No. 255 – Exempt and Complying Development.

In addition to any controls detailed above Penrith Local Environmental Plan No. 255 – Exempt and Complying Development sets out further circumstances where development consent may or may not be required for certain development known as "exempt development" or "complying development". Please see attached lists for development that may be exempt or complying and refer to the local environmental plan (and the accompanying development control plan) for full details. (See note on page 1 regarding the application of this plan to land to which Sydney Regional Environmental Plan No.30 – St Marys applies.)

#### Penrith Local Environmental Plan No. 258 - Consent for Dwelling Houses and Other Development

In addition to any controls detailed above Penrith Local Environmental Plan No. 258 – Consent for Dwelling Houses and Other Development sets out further circumstances where development consent will be required for particular development. A copy of this LEP is attached.

# 2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

The land is not affected by minimum land area provisions for the erection of a dwelling-house (if a dwelling-house is permissible on the land).

Note: If a dwelling-house is permissible on the land there may be certain performance requirements with regard land to dimensions affecting construction. In this regard council has not considered the physical configuration or suitability of this particular land for the erection of a dwelling-house.

## 2(f) whether the land includes or comprises critical habitat:

The land does not include or comprise critical habitat.

## 2(g) whether the land is in a conservation area (however described):

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## PLANNING CERTIFICATE UNDER SECTION 149

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The land is not in a conservation area.

#### 2(h) whether an item of environmental heritage (however described) is situated on the land:

An item of environmental heritage is not situated on the land.

#### 3 DECLARED STATE SIGNIFICANT DEVELOPMENT

Item 3 Declared State Significant Development has been omitted from Planning Certificates vide Government Gazette No. 96 of 29 July 2005.

#### 4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

#### 5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

#### 6 ROAD WIDENING AND ROAD REALIGNMENT

The land is not affected by any road widening or road realignment under: (a) Division 2 of Part 3 of the Roads Act 1993, or (b) an environmental planning instrument, or (c) a resolution of council.

#### 7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

#### (a) Councils Policies

The land is not affected by a policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

#### (b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.

The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

## 7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for dwelling



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**Environmental Planning and Assessment Act, 1979** 

houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) if such uses are permissible on the land. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

(2) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for any other purpose not referred to in (1) above. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

# 8 LAND RESERVED FOR ACQUISITION

No environmental planning instrument, deemed environmental planning instrument or draft environmental planning instrument applying to the land, provides for acquisition of the land by a public authority, as referred to in section 27 of the Act.

#### 9 CONTRIBUTIONS PLANS

The Kingswood Neighbourhood Centre Development Contributions Plan applies to the land if residential development is permissible on the land.

The Footpath Construction in Established Residential Areas of the City Development Contributions Plan applies to the land.

The Penrith City Local Open Space Development Contributions Plan 2007 applies to the land if residential development is permissible on the land.

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

#### 10 MATTERS ARISING UNDER THE CONTAMINATED LAND MANAGEMENT ACT 1997

(a) The land to which the certificate relates is not within land declared to be an **investigation area** or **remediation site** under Part 3 of the Contaminated Land Management Act 1997.

(b) The land to which the certificate relates is not subject to an **investigation order** or a **remediation order** within the meaning of the Contaminated Land Management Act 1997.

(c) The land to which the certificate relates is not the subject of a voluntary investigation proposal (or voluntary remediation proposal) the subject of the Environment Protection Authority's agreement under section 19 or 26 of the Contaminated Land Management Act 1997.

(d) The land to which the certificate relates is not the subject of a site audit statement within the meaning of Part 4 of the Contaminated Land Management Act 1997.

# 11 BUSH FIRE PRONE LAND

The land is not identified as bush fire prone land according to Council records.

## 12 **PROPERTY VEGETATION PLANS**

Certificate No. 08/04410

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# PLANNING CERTIFICATE UNDER SECTION 149

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(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.)

#### 13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.)

#### **DIRECTIONS UNDER PART 3A** 14

Civic Centre

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect.)

#### SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS 15 HOUSING

(Information is provided in this section only if:

- (a) there is a current site compatibility certificate (of which council is aware) issued under clause 25 of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
- (b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

#### 16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (of which council is aware) issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land.)

Note: The Environmental Planning and Assessment Amendment Act 1997 commenced operation on the 1 July 1998. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Amendment) Regulation 1998, Environmental Planning and Assessment (Further Amendment) Regulation 1998 and Environmental Planning and Assessment (Savings and Transitional) Regulation 1998.

Information is provided only to the extent that Council has been notified by relevant government departments.

#### 149(5) Certificate This Certificate is directed to the following relevant matters affecting the land

When information pursuant to section 149(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 149(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:



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- From 1 July 2008 Council's 149(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council's Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at <a href="http://www.penrithcity.nsw.gov.au">www.penrithcity.nsw.gov.au</a>. Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

\* When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

\* The land is affected by a Tree Preservation Order.

Alan Stoneham, General Manager.

Per

# Exempt and Complying Development

**NOTE:** For development to be "Exempt Development" or "Complying Development" it MUST comply with the requirements specified within Penrith Local Environmental Plan No. 255 – Exempt and Complying Development, and Penrith Development Control Plan 2006 Part 5 Exempt and Complying Development.

#### **Exempt Development**

| Advertisement / Signs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Minor Ancillary Development (cont.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul> <li>Advertisement displaying a message changed from that displayed by a previously approved advertisement.</li> <li>Advertisement erected on land zoned Rural Conservation under SREP No. 13 – Mulgoa Valley; or land zoned Agriculture Protection or Rural under SREP No. 25 – Orchard Hills.</li> <li>Advertisement within a site being a sign which is not visible from outside the site on which it is displayed.</li> <li>Advisory or directional sign (traffic directional, street signs).</li> <li>Business identification sign.</li> <li>Exhibition village sign being an advertisement erected on a property on which Council has approved an "exhibition home or homes".</li> <li>Public notice.</li> <li>Real estate sign.</li> <li>Sponsorship advertising in sporting fields or grounds.</li> <li>Temporary sign.</li> </ul>                                                                 | <ul> <li>Minor internal (non-structural) alterations to existing business or office premises, and shops (other than food shop, take-away food shop or restaurant).</li> <li>Minor internal (non-structural) alterations to existing dwelling or dwelling house.</li> <li>Outdoor eating area in conjunction with a restaurant or refreshment room.</li> <li>Outdoor trading area in conjunction with an approved shop.</li> <li>Park and street furniture (seats, bins, picnic tables, minor shelters and bus shelters) by Penrith City Council.</li> <li>Pergola (no roof covering).</li> <li>Playground equipment on land classified as Community Land by Penrith City Council.</li> <li>Privacy screen for domestic purposes on a residential property.</li> <li>Re-cladding of walls to existing dwelling, dwelling house, ancillary residential or rural building.</li> <li>Retaining walls required as a result of excavations associated with the construction of a building or structure.</li> </ul> |
| Minor Ancillary Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul><li>Satellite dish for domestic purposes.</li><li>Screen enclosure attached to existing dwelling house.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <ul> <li>Access ramps for people with disabilities.</li> <li>Aerials and antennae but not including satellite dishes.<br/>(Domestic purposes only.)</li> <li>Air conditioners and exhaust fans for existing dwelling house.</li> <li>Awning, canopy or stormblind attached to existing dwelling house.</li> <li>Aviary (an enclosure in which birds are kept for domestic purposes, not including poultry or pigeons).</li> <li>Barbecue associated with existing dwelling or dwelling house.</li> <li>Bollards erected for security purposes to existing business premises, office premises, or shop.</li> <li>Bridges and staircases in Penrith City Council's public parks and recreation areas.</li> <li>Cabana or gazebo.</li> <li>Carport for existing dwelling house.</li> <li>Childproof enclosures for dangerous dogs or restricted dogs as defined under the Companion Animals Act, 1998.</li> </ul> | <ul> <li>Shade structure to be erected on land owned by Penrith City Council.</li> <li>Skylight or rooflight for existing dwelling or dwelling house.</li> <li>Solar water heater, solar panels and solar lighting.</li> <li>Tennis court for private / non-commercial use on a rural zoned property and associated with a dwelling house.</li> <li>Waste storage container (waste / skip bin) temporarily being placed in a public place.</li> <li>Water heater excluding solar systems.</li> <li>Windows, glazed areas and external door replacement for existing dwelling, dwelling house, or other ancillary residential building.</li> <li>Water storage tank.</li> <li>In Residential zones (water tanks at or above ground level).</li> <li>On land owned, controlled or managed by Penrith City Council (water tank at or above ground level.)</li> </ul>                                                                                                                                            |
| <ul><li>Clothes line or hoist for domestic purposes.</li><li>Cubby house at ground level.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Use of Land or Building.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <ul> <li>Deck or patio attached to existing dwelling house.</li> <li>Flag pole not to be used for the display of corporate flags for the purposes of advertisement.</li> <li>Garden shed, greenhouse, and the like.</li> <li>Goal posts, sightscreens and similar ancillary sporting structures on sporting or playing fields (excludes grandstands, dressing sheds and the like).</li> <li>Isolation swimming pool safety fencing for existing pools installed prior to the 1 August 1990, for domestic properties.</li> <li>Lighting of Penrith City Council's sporting or playing fields.</li> <li>Minor external repairs to existing dwelling or dwelling house.</li> </ul>                                                                                                                                                                                                                                | <ul> <li>Agriculture not including aquaculture, dams, intensive animal industries and intensive horticulture establishments.</li> <li>Ancillary building associated with the agricultural use of the land.</li> <li>Bed and breakfast establishment in existing dwelling house.</li> <li>Class 9b building for the purpose of a public meeting.</li> <li>Family day-care home in existing dwelling house.</li> <li>Home activity or home occupation in existing dwelling or dwelling house.</li> <li>New use of existing business premises or office premises to another business premises or office premises.</li> <li>New use of existing business premises to another business premises.</li> <li>New use of existing shop to another shop (other than a food shop, take-away food shop or a shop trading principally in bulky goods).</li> </ul>                                                                                                                                                         |

Temporary use of existing building as a place of public entertainment.

#### **Other Minor Development**

- Boundary adjustment.
- Demolition of:
  - Single storey residential construction and ancillary, single storey development (including swimming pools), and
  - All exempt activities in this Schedule (other than 'Isolation Swimming Pool Fencing').
- Fences other than swimming pool fencing covered by the Swimming Pools Act 1992.
  - In Industrial zones.
  - In Residential zones.
  - In Rural zones (including entrance gates).
  - In Open Space zones.

#### **Complying Development**

- Dwelling house (single storey detached dwelling house, but not a re-sited dwelling).
- Single storey additions and alterations to existing single storey dwelling house (including awning, screen enclosure and / or pergola).
- Ground and first floor additions and alterations to existing dwelling house in rural areas (including awning, screen enclosure and / or pergola).
- Carport or garage (including garden shed) associated with existing dwelling house.
- Farm shed (building used for farm or agricultural purposes only).
- Swimming pool (above or in-ground) associated with existing dwelling house. Non – commercial swimming pool.
- Internal structural works associated with a bed and breakfast establishment in an existing dwelling house.
- Demolition of a building up to 2 storeys (of residential construction).
- Strata subdivision of completed development only.
- New use to a business premises in an approved industrial building or unit.
- New use to a light industry in an approved industrial building or unit.
- Change in building classification as a result of new use of existing unit or building and may include internal alterations. New use may involve a commercial premises, business premises, office premises, or shop (other than a food shop or take-away food shop).
- Internal alterations to existing commercial, business or office premises, or shop (other than a food shop or take-away food shop).
- Internal alterations to existing industrial unit or building.
- New use of existing commercial or industrial unit or shop as a food shop or take-away food shop including internal alterations.
- Internal alterations to an existing food shop or take-away food shop.

# Penrith Local Environmental Plan No 258 – Consent for Dwelling Houses and Other Development

#### 1 Name of plan

This plan is Penrith Local Environmental Plan No 258 – Consent for Dwelling Houses and Other Development.

#### 2 Aims of plan

This plan aims to:

- (a) require development consent for dwelling houses on residentially zoned land within the City of Penrith, and
- (b) require development consent for dwelling houses on land within the Non-urban zone under the Penrith Planning Scheme Ordinance and on land within the Special Business zone under Penrith Local Environmental Plan 1997 (Penrith City Centre), and
- (c) require development consent for dwelling houses attached to and used in conjunction with shops on land within the Neighbourhood Business zone under the *Penrith Planning Scheme Ordinance*, and
- (d) require development consent for the following:
  - (i) the erection of a building or structure ordinarily associated with a dwelling house,
  - (ii) a change of building use,

**Note.** At the commencement of this plan, **a change of building use** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

- (iii) demolition of a building or structure,
- (iv) carrying out structural alterations to a building, internal alterations to a building, or external building work in association with business premises, a bed and breakfast establishment, office premises, commercial premises or take away food shops,
- (v) the subdivision of land,

to the extent to which such development does not already require development consent because of another environmental planning instrument in order to be carried out.

#### 3 Land to which plan applies

This plan applies to all land within the City of Penrith.

#### 4 Relationship to other environmental planning instruments

- (1) In the event of an inconsistency between this plan and any other local environmental planning instrument or deemed environmental planning instrument, this plan shall prevail to the extent of the inconsistency, subject to section 36 (4) of the Act.
- (2) This plan amends:
  - (a) Penrith Planning Scheme Ordinance in the manner set out in Schedule 1,
  - (b) Penrith Local Environmental Plan 1997 (Penrith City Centre) in the manner set out in Schedule 2, and
  - (c) Penrith Local Environmental Plan 1998 (Urban Land) in the manner set out in Schedule 3.
- (3) This plan does not affect the application of:
  - (a) State Environmental Planning Policy No 3 Castlereagh Liquid Waste Disposal Depot,
  - (b) State Environmental Planning Policy No 27 Prison Sites,
  - (c) Sydney Regional Environmental Plan No 9 Extractive Industry,

- (d) Sydney Regional Environmental Plan No. 11 Penrith Lakes Scheme,
- (e) Sydney Regional Environmental Plan No 20 Hawkesbury-Nepean River (No 2-1997),
- (f) Sydney Regional Environmental Plan No 30 St Marys, or
- (g) Penrith Local Environmental Plan No 255 Exempt and Complying Development,

to land to which this plan applies.

#### 5 Definitions

(1) In this plan:

a building or structure ordinarily associated with a dwelling house means a garage, carport, pergola, swimming pool, and the like, and includes alterations and additions to an existing dwelling house.

change of building use has the same meaning as in the Act.

**Note.** At the commencement of this plan, a **change of building use** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

*dwelling* means a room or number of rooms occupied or used, or so constructed or adapted as to be capable of being occupied or used, as a separate domicile.

dwelling house means a dwelling which is the only dwelling erected on an allotment of land.

subdivision of land has the same meaning as in the Act.

the Act means the Environmental Planning and Assessment Act 1979.

(2) The list of contents and notes in this plan are not part of this plan.

6 Dwelling houses require development consent

- (1) The erection of a dwelling house must not be carried out without development consent.
- (2) This clause applies to residentially zoned land within the City of Penrith.
- (3) This clause applies if the development:
  - (a) does not require development consent because of another environmental planning instrument, and
  - (b) is not prohibited by another environmental planning instrument.

#### 7. Miscellaneous development that requires development consent

(1) The following development must not be carried out without development consent:

- (a) erection of a building or structure ordinarily associated with a dwelling house, or
- (b) development that results in a change of building use, or
- (c) demolition of a building or structure, or
- (d) structural, internal or external building work in association with business premises, a bed and breakfast establishment, office premises, commercial premises or take away food shops.
- (2) This clause applies if the development:
  - (a) does not require development consent because of another environmental planning instrument, and
  - (b) is not prohibited by another environmental planning instrument, and
  - (c) is not identified in *Penrith Local Environmental Plan No 255 Exempt and Complying Development* as exempt development, and
  - (d) does not involve Crown building work as defined in section 116G of the Act.

#### 8 Subdivisions require development consent

- (1) A subdivision of land must not be carried out without development consent.
- (2) This clause applies if the subdivision of land:
  - (a) does not require development consent because of another environmental planning instrument, and
  - (b) is not prohibited by another environmental planning instrument, and
  - (c) is not identified in *Penrith Local Environmental Plan No 255 Exempt and Complying Development* as exempt development, and
  - (d) does not involve Crown building work as defined in section 116G of the Act.

# Schedule 1 Amendment of Penrith Planning Scheme Ordinance

(Clause 4 (2) (a))

#### [1] Clause 4 Interpretation Omit the definition of *Country dwelling*.

- [2] Clause 26 Erection or use of buildings or works Omit "country dwellings;" from Column III for Zone No 1 of the Table to the clause.
- [3] Clause 26, Table Omit "dwelling-houses other than country dwellings and rural dwellings;" from Column V for Zone No. 1.
- [4] Clause 26, Table Omit "Dwelling-houses other than semi-detached and terrace buildings." from Column III for Zone No 2(a).
- [5] Clause 26, Table Omit "Residential buildings." from Column III for Zone No 2 (b).
- [6] Clause 26, Table Omit "Dwelling-houses other than semi-detached or terrace buildings." from Column III for Zone No 2 (c).

#### [7] Clause 26, Table

Omit ";dwelling-houses attached to and used in conjunction with shops" from Column III for Zone No 3 (c).

#### [8] Clause 26, Table

Omit "Purposes" from Column IV for Zone No 3(c).

Insert instead "Buildings or other structures ordinarily associated with dwelling houses; changes of building use (as defined in the *Environmental Planning and Assessment Act 1979*); dwelling-houses attached to and used in conjunction with shops; demolition of buildings or other structures; land uses and premises".

#### [9] Clause 26, Table

Insert "; structural or internal alterations to, or external building work in association with, commercial premises or refreshment rooms" after "roads" in Column IV for Zone No 3(c).

- [10] Clause 38 Development in residential zones Omit the clause.
- [11] Clause 46 Variation of area required for country dwelling Omit the clause.
## Schedule 2 Amendment of Penrith Local Environmental Plan 1997 (Penrith City Centre)

(Clause 4 (2) (b))

### [1] Clause 9 Zone objectives and development control table Omit from item (b) (i) Without development consent for Zone No 2 (f) in the Development Control Table:

• dwelling-houses

### [2] Clause 9, table

Insert in alphabetical order in item (b) (ii) Only with development consent for Zone No 2 (f):

- buildings or other structures ordinarily associated with dwelling-houses
- demolition of buildings or other structures
- dwelling-houses

### [3] Clause 20 Development of land within Zone No 3 (a)

Insert "where the new use does not involve structural or internal alterations or external buildings works" after the words "or take away food shops".

## Schedule 3 Amendment of Penrith Local Environmental Plan 1998 (Urban Land)

(Clause 4 (2) (c))

### [1] Clause 9 Zone objectives and development control table Omit wherever occurring from item (b) (i) Without development consent for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e) in the Development Control Table:

• dwelling houses

### [2] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e):

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- dwelling houses
- internal structural work in bed and breakfast establishments

### [3] Clause 9, table

Insert in alphabetical order in item b (ii) Only with development consent for Zones Nos 2 (r) and 2 (r1);

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- structural or internal alterations to bed and breakfast establishments

## [4] Clause 9, table

Insert in alphabetical order in item (b) (ii) Only with development consent for Zone No 3 (f):

- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- external building work associated with an existing land use carried out with consent
- structural or internal alterations to a building or other structure erected with consent or building approval

### ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

## DRAFT PENRITH LOCAL ENVIRONMENTAL PLAN 1998 (URBAN LAND) AMENDMENT NO. 17

I, the Minister for Infrastructure, Planning and Natural Resources, in pursuance of section 70 of the Environmental Planning and Assessment Act 1979, make the local environmental plan set out hereunder (Pl\*\*\*\*\*\*).

Minister for Infrastructure, Planning and Natural Resources Sydney. 2004.

1. Name of plan

This plan may be cited as Penrith Local Environmental Plan 1998 (Urban Land) Amendment No.17.

- 2. Alm of plan
  - The plan aims to amend Penrith Local Environmental Plan 1998 (Urban Land):
  - to clarify the aim and objectives of the plan, and (a) (b)
  - to add a provision regarding the minimum width for an access corridor or right of carriageway, and (c)
  - to update a number of requirements applying to the Zone No. 2(o) Residential (Low-Medium Density), and (d)
  - to update the solar design principles as applying to all new dwellings and dwelling houses, and to add provisions that ensures developments are adequately serviced, and (e)
  - (f) to update a number of existing definitions and add a new definition.
- 3. Land to which plan applies

This plan applies to all land covered by Penrith Local Environmental Plan 1998 (Urban Land).

- 4. Amendment of the Penrith Local Environmental Plan 1998 (Urban Land) Penrith Local Environmental Plan 1998 (Urban Land) is amended as set out in Schedule 1.
- Relationship to Other Environmental Planning Instruments This plan amends Pendih Local Environmental Plan 1998 (Urban Land) In the manner set out in Schedule 1,

# DRAFT

Schedule 1 Amendment of Penrith Local Environmental Plan 1998 (Urban Land) (Class se 4)

### [1] Clause 7

At the end of subclause (1) (c) (iv) delete "," and insert instead "; and"

[2] Clause 7

At the end of subclause (1) (d) (v) delete "," and insert instead "; and

[3] Clause 7

Delete subclause (1) (e) (iv) and Insert instead the following words-

- to encourage a variety of housing forms within each development where the individual dwellings or a multi-storey residential building that align the street directly addresses the street including locating the building entrance or entrances to individual dwellings to face the street, while the remaining dwellings within the development site have an address to another public place and locate their dwelling entrance to face that public place;\* "(iv)
- [4] Clause 7

At the end of subclause (1) (f) (i) delete ";" and insert instead ", and"

Clause 7 [5]

At the end of subclause (1) (f) (ii) delete ";" and insert instead ", and"

[6] Clause 7

Dalate subclause (1) (h) (i) and insert instead the following words-

- \*(i) to promote development which safeguards the environment, in particular protect the habitat of native fauna species and vegetation endemic to Penrith City, and\*
- [7] Clause 7

Delete subclause (1) (h) (ii) and insert instead the following words-

- to improve the effective performance of residential development by:

   reducing demand for mechanical heating or cooling of dwellings through effective solar access and landscaping, and
  - reducing discharge of contaminated stormwater run-off to the Nepsan-Hawkesbury River through suitable design and management, and\*
- [8] Clause 9, Zoning Table to Zone 2(c) Residential (Low-Medium Density)

Delete subclause (a) (iv) and insert instead the following words-

to expand housing choices by allowing multi-unit housing that is single storey and attic storey villas, and\* :(iv)

- [9] Clause 11
  - Insert new subclause after subclause (5)-

Notwithstanding subclause (4) above, the minimum width of the access corridor or right of carriageway is 7.5 metres. \*(6)

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[10] Clause 12, Table 4

In relation to Zone 2(c) of Table 4, delete the maximum external wall height of \*3.6 m\* and insert instead \*3 m\*.

[11] Clause 12

Delete subclause (5) (a) and Insert Instead the following words-

the erection of a second dwelling on an allotment in Zone No. 2(a), 2(b) or 2(c) on which there is an existing dwelling house if the external wall height of the second dwelling will exceed 3.5 metres; or "(a)

### [12] Clause 12

Delete subclause (5) (b) and insert instead the following words-

the erection of two detached dwellings on a vacant allotment in Zone No. 2(a), 2(b) or 2(c) if the external wall height of the dwelling furthest from the street will exceed 3.5 metres; or "(b)

[13] Clause 12, Diagram 1

Delete the first diagram relating to Zone No. 2 (c) and insert Instead the following diagram-



[14] Clause 13

Delete subclause (1) (b) and insert instead the following words-

reduce the consumption of energy used in dwellings or a dwelling-house by ensuring that solar design principles are used in the design of dwellings or a dwelling-house.\* "(b)

[15] Clause 13

Delete subclause (2) and insert instead the following words-

- The council must not grant consent to the eraction of a dwelling or dwelling-house if, in the opinion of the council, that dwelling or dwelling-house: (a) does not allow for at least 3 hours of direct sun to the windows af living areas of the dwelling or dwelling-house between 9am and 3pm on June 21, and \*(2)
  - (b)
  - (c)
  - (d)
  - June 21, and does not allow for at least 3 hours of direct sun to the principal private open space areas of the ground floor dwelling or dwelling house between 9am and 3pm on June 21, and will reduce direct sun to the windows of neighbouring living areas to less than 3 hours between 9am and 9pm on June 21, and does not include roof and to ploor celling insulation to an equivalent thermal rating of at least R3.0 and wall insulation to an equivalent thermal rating of at least R1.5, and does not include protor and from the entry of summer sunlight by shading devices on external openings to habitable rooms.
- [17] New Clause 148

Insert after Clause 14A, new Clause 14B and the following words-

### "14B. Servicing the Site

- The objective of this clause is to ensure that utility services are available to and can accommodate the development being carried out on the site. (1)
- The council must not grant consent to development unless all relevant service utility authorities have been consulied and the council is of the opinion that the development has taken into account the following:
  (a) development can be account the following:
  (b) where required, obtain the service utility authorities' requirements to ensure the service infrastructure is accommodated within the development for utility service provision, and
  (b) Incorporate the requirements into the development for utility service provision and
  (b) Incorporate the requirements into the development without compromising the other requirements in this Plan.\* (2)

[18] Clause 29

insert after Clause 29, the following words-

"Advisory This clause applies to roads that may require the approval or concurrence from the Roads and Traffic Authority under the Roads Act. This will be required for work within the road reserve of a road, particularly new access earangements to a road that this clause applies. In these instances, the development application is Integrated Davelopment under Section 91 of the Environmental Planning and Assessment Act."

- - (e)

At the end of subclause (e) delete "," and insert instead ", and"

- - [16] Clause 14

### [19] Schedule 2 - Definitions

Insert after the definition of 'appointed day' the definition of 'attic storey'-

"attic storey" means a storey that is contained within a maximum 35 degrees pitched roof and having: (a) a celling helpht of 2.4 metres across two-thilds of its floor area; and (b) a minimum 1.8 metres ceiling helpht at any point within this storey;

### [20] Schedule 2 - Definitions

Insert after the definition of 'classified road' the following words-

"Advisory Work on the road reserve of a classified road, particularly new access arrangements onto the classified road, requires the approval or concurrence of the Roads and Traffic Authority under the Roads Act. In these instances, the development application is Integreted Development under Section 91 of the Environmental Planning and Assessment Act."

### [21] Schedule 2 - Definitions

Delete the definition of 'internal lot' and insert instead the following:

"internal lot" means a lot that does not have direct frontage to the street except via another lot or an access confidor or a right of cartageway, and the only means of vehicular access to a street is an access confidor, a right of carriageway over another lot, or another lot,

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|                              |                                              |             | JOB NO.                  |  |  |
|------------------------------|----------------------------------------------|-------------|--------------------------|--|--|
| WORKCOVER<br>New South Wales | Our Ref: D08/150805<br>Your Ref: Matt Uttley | D08/150805  | GOLDER ASSOCIATES PTY LT |  |  |
|                              |                                              | 17 DEC 2008 |                          |  |  |
|                              | 15 Dece                                      | mber 2008   | SYDNEY OFFICE            |  |  |

Attention: Mr Uttley Golder Associates Pty Ltd 124 Pacific Highway St Leonards NSW 2065

Dear Mr Uttley

## RE SITE: Nepean Hospital Somerset Street, Kingswood NSW 2747

I refer to your site search request received on 9<sup>th</sup> December 2008 requesting information on a Licence to Keep Dangerous Goods on the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licence **35/003838** relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID).

If you have any further queries, please contact WorkCover's Dangerous Goods Licensing staff on (02) 4321 5500.

Yours sincerely

M.M. Mad

Michelle Kidd Senior Licensing Officer Dangerous Goods Team

## WorkCover. Watching out for you.

WorkCover NSW ABN 77 682 742 966 92-100 Donnison Street Gosford NSW 2250 Locked Bag 2906 Lisarow NSW 2252 Telephone 02 4321 5000 Facsimile 02 4325 4145 WorkCover Assistance Service **13 10 50** DX 731 Sydney Website www.workcover.nsw.gov.au

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| Application - Site Searce                                                  | ch for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Accompanying this application you must als                                 | o provide:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| * A letter of Authorisation from the owner of the la                       | and to be sea                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| * A Map showing the actual location of the land to                         | be searche                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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|                                                                            | Accompanying this application you must also         A letter of Authorisation from the owner of the land to         A hap showing the actual location of the land to         Company Applying for Site Search         Golder Associates Pty Ltd         Postal Address of Applicant         124 Pacific Highway, St Leonards, NSW         Contact for Site Search Inquiries         Name         Matt Uttley         Existing Licence Number (if known)         Street Address of Site to Be Searched         Unit / No         Street         Derby Street         Nearest Cross Street         Derby Street         Nepean Hospital, NSW Health         Payment details         I understand that the fee for a site search is         For multiple sites provide a separate attachr         Total Number of Sites       X         By Cheque       Enclose a cheque made payable         American Express       Bankcard         Card Number       4       9       3       5       3       7       0       3       7         Cardholders Name       Mr M D Uttley       Interve       Interve       Interve       Interve       Interve | Accompanying this application you must also provide:         A letter of Authorisation from the owner of the land to be searched.         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Company Applying for Site Search         Golder Associates Pty Ltd         Postal Address of Applicant         124 Pacific Highway, St Leonards, NSW         Contact for Site Search Inquiries         Name       Phone         Matt Uttley       02 9478 32         Existing Licence Number (if known)         Street Address of Site to Be Searched         Unit / No       Street         Nearest Cross Street       Derby Street         Nepean Hospital       Somerset Street         Nepean Hospital, NSW Health       Payment details         I understand that the fee for a site search is \$132 per site         For multiple sites provide a separate attachment listing         Total Number of Sites       X       \$132         By Cheque       Enclose a cheque made payable to WorkCord         American Express       Bankcard       Gard Number         4       9       3       3       7       9       6         Cardholders Name       Mr M D Uttley       Muttley       Muttley       Muttley       Muttley       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Utiley       02 9478 3982         Existing Licence Number (if known)       35/         Street Address of Site to Be Searched       Munt / No         Street Address of Site to Be Searched       Mingswood , NSW         Nepean Hospital       Somerset Street         Nepean Hospital       Somerset Street         Nepean Hospital, NSW Health       Nepean Hospital, NSW Health         Payment details       I understand that the fee for a site search is \$132 per site (inclusive of GST)         For multiple sites provide a separate attachment listing the required site details         Total Number of Sites       X       \$132         By Cheque       Enclose a cheque made payable to WorkCover NSW.       \$         American Express       Bankcard       MasterCard       \$</th> | Accompanying this application you must also provide:         * A letter of Authorisation from the owner of the land to be searched         * A Map showing the actual location of the land to be searched         * A Map showing the actual location of the land to be searched         * Company Applying for Site Search       ABN         Golder Associates Pty Ltd       64 00         Postal Address of Applicant       124 Pacific Highway, St Leonards, NSW         Contact for Site Search Inquiries       Name         Name       Phone         Matt Utiley       02 9478 3982         Existing Licence Number (if known)       35/         Street Address of Site to Be Searched       Suburb / Town         Nepean Hospital       Somerset Street       Kingswood , NS         Nearest Cross Street       Derby Street       Inclusive of GS         For multiple sites provide a separate attachment listing the required site of a site search is \$132 per site (inclusive of GS       For multiple sites provide a separate attachment listing the required site of a site search is \$132 per site (inclusive of GS         For multiple sites provide a separate attachment listing the required site of a site search is \$132 per site 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WorkCover guarantees that your application will be processed within 10 days of receipt if all information is provided.

Please send your application marked Confidential, to: Dangerous Goods Licensing, WorkCover NSW, Locked Bag 2906, LISAROW NSW 2252

Hotline: (02) 4321 5500 - Fax: (02) 9287 5500



| CONTACT FOR NOTIFICATION INQUIRIES                                                 |                               |
|------------------------------------------------------------------------------------|-------------------------------|
| Title: Mr/ Miss / Ms / Mrs / Other (please specify) Family name                    | BETROS                        |
| Given name MKKK Other names AN                                                     | THONY                         |
| Business phone 47342414 Business fax number                                        | 47342310                      |
| Business email address betrosm@ wahs. rsw. gov. av                                 |                               |
|                                                                                    |                               |
| Previous Licence Number or Acknowledgement Number (if known)                       |                               |
| 35/ 003838                                                                         |                               |
|                                                                                    | 200.00                        |
| Previous Occupier (if known)                                                       | $\frac{200.00}{24-1.08}$      |
| <b>—</b>                                                                           |                               |
|                                                                                    |                               |
| Site on which dangerous goods are to be kept                                       | ;                             |
| Number Street                                                                      |                               |
| SOMMERSET SARGET                                                                   |                               |
| Suburb/Town/Locality                                                               | Postcode                      |
| DERBY OR GREAT WEBTERN HIGHWAY                                                     |                               |
|                                                                                    |                               |
| Nearest cross Street                                                               |                               |
|                                                                                    |                               |
| Lat and DD if no street number                                                     |                               |
| Lot and DP if no street number                                                     |                               |
|                                                                                    |                               |
| Is the site staffed? If yes state number of employees Hospira                      |                               |
| Site staffing: Hours per day 24 Days per week 7                                    |                               |
|                                                                                    |                               |
| Site Emergency Contact                                                             |                               |
| Phone number Name                                                                  |                               |
| (02) 47342000 SHITCH BOARD                                                         |                               |
| Nature of site (eg petrol station, warehouse etc)                                  |                               |
| HOSPITAL                                                                           |                               |
| NOSTITAD                                                                           | }                             |
| Nature of primary business activity                                                |                               |
| HEALTH CAPE                                                                        |                               |
|                                                                                    |                               |
| ABN Number (if any) Website details (if any)                                       |                               |
| 70667812600                                                                        |                               |
| What is the ANSZIC code most applicable to your business? (see guide for list of c | odes and further information) |
|                                                                                    | -                             |
| ·                                                                                  |                               |
| 861 HOSTIFALS & NURSING HOMES                                                      |                               |

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

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

| Depot No  | Type of storage location | n or pro | cess C             | lass              | Maximum Stora | ge Capacity     | (L, kg)        |                  |
|-----------|--------------------------|----------|--------------------|-------------------|---------------|-----------------|----------------|------------------|
| 1         | ABOVE COLOUND            | TAN      | IKS                | 2.2 10:000 LITRET |               |                 |                |                  |
| UN Number | Proper Shipping Name     | Class    | PG<br>(I, II, III) | Product or        | Common Name   | HazChem<br>Code | Typical<br>Qty | Unit<br>eg L, kg |
| 1073      | REFLIGERATED             | 2.2      |                    | OXY               | GEN           |                 | 10,000         | L                |
|           | LIQUID OXYGEN            |          | ·····              |                   |               |                 |                |                  |
|           | · ·                      |          |                    |                   |               |                 |                |                  |
|           |                          |          |                    |                   | ,             |                 |                |                  |
| Depot No  | Type of storage location | a or pro | cess C             | lass              | Maximum Stora | ge Capacity     | (L, kg)        |                  |
| UN Number | Proper Shipping Name     | Class    | PG<br>(I, II, III) | Product or        | Common Name   | HazChem<br>Code | Typical<br>Qty | Unit<br>eg L, kg |
|           |                          |          |                    | ļ                 |               |                 |                |                  |
|           |                          | ·        |                    | ļ                 |               |                 | Ŕ              |                  |
|           |                          |          |                    |                   |               |                 |                |                  |
|           |                          | l        |                    | <u> </u>          |               |                 | I              | ļ                |
| Depot No  | Type of storage location | a or pro | cess C             | lass              | Maximum Stora | ge Capacity     | (L, kg)        |                  |
| UN Number | Proper Shipping Name     | Class    | PG<br>(I, II, III) | Product or        | Common Name   | HazChem<br>Code | Typical<br>Qty | Unit<br>eg L, kg |
|           |                          |          |                    |                   |               |                 |                |                  |
|           |                          | L        |                    | ļ                 |               |                 |                |                  |
|           |                          |          |                    |                   |               |                 |                |                  |
|           |                          | L        | <u> </u>           | <u> </u>          |               | 1               | L              |                  |
| Depot No  | Type of storage location | 1 or pro | cess C             | lass              | Maximum Stora | ge Capacity     | (L, Kg)        | ·····            |
| UN Number | Proper Shipping Name     | Class    | PG<br>(I, II, III) | Product or        | Common Name   | HazChem<br>Code | Typical<br>Qty | Unit<br>eg L, kg |
|           |                          |          |                    | T                 |               |                 |                | <u>_</u>         |
|           | *                        |          |                    |                   |               | 1               |                |                  |
|           |                          | <b> </b> |                    |                   |               | 1               |                |                  |
|           |                          |          |                    |                   |               |                 |                |                  |
| Depot No  | Type of storage location | n or pro | cess C             | lass              | Maximum Stora | ige Capacity    | ' (L, kg)      |                  |
| UN Number | Proper Shipping Name     | Class    | PG<br>(I, II, III) | Product or        | r Common Name | HazChem<br>Code | Typical<br>Qty | Unit<br>eg L, kg |
|           | <u></u>                  |          |                    |                   |               |                 |                |                  |
|           |                          |          |                    |                   |               |                 |                |                  |

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DERBY STREET, KINGSWOOD

PARKERSTREET



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| CONTACT FOR NOTIFICATION INQUIRIES                                                                                                         |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Title: Mr / Miss / Ms / Mrs / Other (please specify) MR Family name BETROS                                                                 |  |  |  |  |  |  |  |
| Given name MARK Other names ANTHONY                                                                                                        |  |  |  |  |  |  |  |
| Gender Male) Female (please circle) Date of birth <u>29 / 11 / 57</u> Place of birth <u>AUSTRALIA</u><br>Postal address <u>P.O. BOX 63</u> |  |  |  |  |  |  |  |
| Suburb PENRITY State NSW Postcode 2751                                                                                                     |  |  |  |  |  |  |  |
| Business phone         47342414         Business fax number         47342310                                                               |  |  |  |  |  |  |  |
| Business email address betrosm@ wahs. NSW. gov. au                                                                                         |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
| Previous Licence Number or Acknowledgement Number (if known)                                                                               |  |  |  |  |  |  |  |
| 35/ <b>003838</b>                                                                                                                          |  |  |  |  |  |  |  |
| Previous Occupier (if known)                                                                                                               |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
| Site on which dangerous goods are to be kept                                                                                               |  |  |  |  |  |  |  |
| Number Street                                                                                                                              |  |  |  |  |  |  |  |
| SOMMERSET STREET                                                                                                                           |  |  |  |  |  |  |  |
| Nearest cross Street                                                                                                                       |  |  |  |  |  |  |  |
| DERBY OR GREAT WESTERN HIGHWAY                                                                                                             |  |  |  |  |  |  |  |
| Lot and DP if no street number                                                                                                             |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
| Is the site staffed? If yes state number of employees MANY, WHICH VARY (Hosfirm SITE)                                                      |  |  |  |  |  |  |  |
| Site staffing: Hours per day 24 Days per week 7                                                                                            |  |  |  |  |  |  |  |
| Site Emergency Contact                                                                                                                     |  |  |  |  |  |  |  |
| Phone number Name                                                                                                                          |  |  |  |  |  |  |  |
| (02) 47342000 SWITCHBOARD                                                                                                                  |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
| Nature of site (eg petrol station, warehouse etc)                                                                                          |  |  |  |  |  |  |  |
| HOSPITAL                                                                                                                                   |  |  |  |  |  |  |  |
| Nature of your primary business activity                                                                                                   |  |  |  |  |  |  |  |
| HERUTH LARE                                                                                                                                |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |
| ABN Number (if any) Website details (if any)                                                                                               |  |  |  |  |  |  |  |
| 65 570 478 165                                                                                                                             |  |  |  |  |  |  |  |
| What is the ANSZIC code most applicable to you business? (see guide for list of codes and further information)                             |  |  |  |  |  |  |  |
| Code Description                                                                                                                           |  |  |  |  |  |  |  |
| 861 HOSPITALS & NURSING HOMES,                                                                                                             |  |  |  |  |  |  |  |
|                                                                                                                                            |  |  |  |  |  |  |  |

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

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

## NOTIFICATION OF DANGEROUS GOODS ON PREMISES FORM

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

| Identifier | Type of storage location | n or pro | cess (                          | Class      | Maximum Stora           | ge Capacity                           | (L, kg, N            | 1 <sup>3</sup> )                 |
|------------|--------------------------|----------|---------------------------------|------------|-------------------------|---------------------------------------|----------------------|----------------------------------|
| 1          | ABOVE GROUND             | TAN      | КS                              | 2.2        | 15,000                  | LITRES                                |                      |                                  |
| UN Number  | Proper Shipping Name     | Class    | PG<br>(I, II, III)              | Product or | Common Name             | HazChem<br>Symbol                     | Typical<br>Qty       | Unit<br>eg L, kg, M <sup>3</sup> |
| 1073       | REAKIGOCATED             | 2.2      | <i>u</i>                        | οχ         | YGON                    |                                       | 15000                | L                                |
| -          | LIQUID OXYGEN            |          |                                 |            |                         |                                       | ,                    |                                  |
|            |                          |          |                                 |            |                         |                                       |                      |                                  |
|            |                          |          |                                 |            |                         |                                       |                      | <u> </u>                         |
| Identifier | Type of storage location | n or pro | cess (                          | Class      | Maximum Stora           | ge Capacity                           | (L, kg, N            | 13)                              |
| UN Number  | Proper Shipping Name     | Class    | PG<br>(I, II, III)              | Product or | Common Name             | HazChem<br>Symbol                     | Typical<br>Qty       | Unit<br>eg L, kg, M <sup>3</sup> |
|            |                          |          |                                 |            |                         |                                       | ŕ                    |                                  |
|            |                          |          | ļ                               |            |                         |                                       | <b> </b>             |                                  |
|            |                          |          |                                 |            | MAAAAA 700 PI VOPEN PP. |                                       |                      |                                  |
|            |                          | l        | 1                               | <u> </u>   |                         | <u> </u>                              |                      |                                  |
| Identifier | Type of storage location | n or pro | PG                              | Class      | Maximum Stora           | ge Capacity<br>HazChem                | (L, kg, N<br>Typical | 1 <sup>3</sup> )<br>Unit         |
| UN Number  | Proper Shipping Name     | Class    | (I, II, III)<br>T               | Product or | Common Name             | Symbol                                | Qty                  | eg L, kg, M <sup>s</sup>         |
|            |                          |          |                                 |            |                         | 1                                     |                      |                                  |
|            |                          |          |                                 |            |                         |                                       |                      |                                  |
|            |                          |          |                                 |            |                         |                                       | <u> </u>             |                                  |
| Identifier | Type of storage location | n or pro | cess                            | Class      | Maximum Stora           | ige Capacity                          | (L, kg, N            | 1 <sup>3</sup> )                 |
|            |                          | ····     |                                 |            |                         |                                       |                      |                                  |
| UN Number  | Proper Shipping Name     | Class    | PG<br>(I, II, III)              | Product or | Common Name             | HazChem<br>Symbol                     | Typical<br>Qty       | Unit<br>eg L, kg, M <sup>3</sup> |
|            |                          | ļ        |                                 |            |                         |                                       |                      |                                  |
|            | 5<br>                    |          |                                 |            |                         | · · · · · · · · · · · · · · · · · · · |                      |                                  |
|            |                          |          |                                 |            |                         | 1                                     |                      |                                  |
|            | <u> </u>                 |          | <u> </u>                        | <u> </u>   |                         |                                       |                      | <u> </u>                         |
| Identifier | Type of storage locatio  | n or pro | cess                            | Class      | Maximum Stora           | ige Capacity                          | (L, kg, N            | 1 <sup>3</sup> )                 |
|            |                          | •        |                                 |            |                         |                                       |                      |                                  |
| UN Number  | Proper Shipping Name     | Class    | PG <sup>°</sup><br>(I, II, III) | Product or | Common Name             | HazChem<br>Symbol                     | Typical<br>Qty       | Unit<br>eg L, kg, M <sup>a</sup> |

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PARKERSTREET

DERBY STREET, KINGSWOOD

35/00 3838

TO WorkCover NSW

ATT Dangerous Goods Licensing

FROM Rodney Stewart

DATE 8/1/03

PAGES SENT <sup>7</sup> (INCLUDING THIS ONE)

## <u>Re: Nepean Hospital – Amendment to Dangerous Goods Licence.</u>

To Whom It May Concern:

Enclosed is an application submitted on behalf of Wentworth Area Health Services by DPWS for an amendment to their current dangerous goods licence for the Nepean Hospital site.

The proposal involves the installation of an approved 850 litre container within a space that will be suitably modified for the purpose of storing flammable liquids. The ancillary work involves the installation of fencing, signage, fire extinguishers, lighting and additional ventilation to comply with relevant Standards and Dangerous Goods Act.

The Application and recommendations have been certified by Peter Hunt of Whamcorp Pty Ltd and CNF & Associates Pty Ltd, whom holds the appropriate qualifications.

Following supporting documentation includes:

- Signed Part A of the Application
- Part B Updated site sketch showing the new depot location
- Part C details on the new Depot
- Original stamped drawing for the new Depot
- Consultants Checklist for the new Depot

I trust that the application complete and will meet your approval. Should you require further information on the application please do not hesitate to call me on (02) 9672 5295 or 0417 234 162. Please send correspondence in relation to this matter to myself at PO Box 285, Doonside NSW 2767, or fax to (02) 9672 5297.

Regards

Rodney Stewart Project Officer Sydney Region WORKCOVER NSW RECEIVED

1 4 JAN 2003

DANGEROUS GOODS

DOONSIDE NSW 2767

NSW DEPARTMENT OF PUBLIC WORKS AND SERVICES

Telephone0288188103Facsimile0298377766

NSW Government Offices

236 Richmond Road

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## As a depot? See page 5 of the Guidance Notes

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## ART C - Dangerous Goods Storage Complete one section per depot

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

| Depot<br>Number | Type of depot (see page 5)          |       |                    | Depot<br>Class                        | Maximi<br>storage ca        | pacity              |                                     |
|-----------------|-------------------------------------|-------|--------------------|---------------------------------------|-----------------------------|---------------------|-------------------------------------|
| 12.             | Flammable liquids cabinet           |       |                    | 3                                     | 850 L                       |                     |                                     |
| UN<br>Number    | Proper Shipping Name                | Class | PG<br>(I, I), III) |                                       | common name                 | Typical<br>Quantity | Unit, e.g.<br>L, kg, m <sup>s</sup> |
| 1170            | ETHANOL (ETHYL ALCOHOL)             | 3     | 11                 | ETHANOL                               |                             | 300                 | <b>L</b> .                          |
| 1230            | METHANOL                            | 3/6.1 | 11                 | METHANOL                              |                             | 60                  | L                                   |
| 1090            | ACETONE                             | 3     | 1!                 | ACETONE                               |                             | 20                  | <u>L</u>                            |
| 1307            | XYLENES                             | 3     | 11                 | XYLENE                                | Ý                           | 80                  | <u>L</u>                            |
| 2052            | DIPENTENE                           | 3     | 111                | HISTOLEN                              | 5                           | 120                 | L                                   |
| 1198            | FORMALDEHYDE SOLUTION,<br>FLAMMABLE | 3     | 1                  | FORMALIN                              |                             | 100                 | L                                   |
|                 |                                     |       |                    |                                       |                             |                     |                                     |
|                 |                                     |       |                    | • • • • • • • • • • • • • • • • • • • | an an ann an t-thairt an t- |                     |                                     |

| Depot<br>Number | Type of depot (see page 5) |             |                    | Depot<br>Class | Maxim<br>storage ca       |                     |                                     |
|-----------------|----------------------------|-------------|--------------------|----------------|---------------------------|---------------------|-------------------------------------|
|                 |                            |             |                    |                |                           |                     |                                     |
| UN<br>Number    | Proper Shipping Name       | Class       | PG<br>(i, ii, iii) |                | Product or<br>common name | Typical<br>Quantity | Unit, e.g.<br>L, kg, m <sup>a</sup> |
|                 |                            |             |                    |                |                           |                     |                                     |
|                 |                            | <u>``</u> ; |                    |                |                           |                     |                                     |
|                 | <u> </u>                   |             |                    |                |                           |                     |                                     |
|                 |                            |             |                    |                |                           |                     |                                     |
|                 |                            |             |                    |                |                           | -                   |                                     |



| <b>9</b> ,13:25 | ) ;NEPEAN HOSPIT | TAL MAINT. DEPT.                         |          | ;61247342310            |      |
|-----------------|------------------|------------------------------------------|----------|-------------------------|------|
|                 | cation :         | an a |          |                         |      |
|                 | ice to k         |                                          |          |                         |      |
| Dang            | erous            | Goods                                    |          | WORK<br>NEW SOU         |      |
| Application for | new licence      | amendment                                | transfer | renewal of expired lice | ince |

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

| 1   | Name of applicant                                                        |               |               |               |                                       | ACN                                               |        |          |
|-----|--------------------------------------------------------------------------|---------------|---------------|---------------|---------------------------------------|---------------------------------------------------|--------|----------|
| Ne  | pean Hospital, Public                                                    |               |               |               |                                       |                                                   |        |          |
| 2   | Poetal address of applicant                                              |               |               |               | Suburb/T                              | own                                               |        | Postcode |
| PO  | Box 63,                                                                  |               |               | <u></u>       | <sup>2</sup> enrith                   |                                                   |        | 2750     |
| 3   | Trading name or site occupie                                             | r's name      |               |               |                                       |                                                   |        |          |
| Nep | ean hospital c/o Wentworth /                                             | trea Heelth S | Service (WAI  | HS)           |                                       |                                                   |        |          |
| 4   | Contact for licence inquiries                                            |               |               |               |                                       |                                                   | 1      |          |
|     | Phone                                                                    | Fax           |               | Name          |                                       |                                                   | Ŕ      |          |
| 473 | 14 2414                                                                  | 4734 23       | 10            | Maric Betros  |                                       |                                                   |        |          |
| 5   | Pravious licence number (if k                                            | nown)         | 35/003838     | 3             |                                       |                                                   |        |          |
| 6   | Previous occupier (if known)                                             |               | GEOFF         | 5 JOHN        | STON                                  |                                                   |        |          |
| 7   | Site to be licensed                                                      |               |               |               |                                       |                                                   |        |          |
|     | No                                                                       | Street        | •             |               |                                       |                                                   |        |          |
| ľ   | 73                                                                       | Derby Stre    | et            |               |                                       |                                                   |        |          |
|     | Suburb / Town                                                            |               | ```           |               |                                       | Postcode                                          |        |          |
| Pen | rith                                                                     |               |               |               |                                       | 27                                                | 49     |          |
|     |                                                                          |               |               |               |                                       |                                                   |        |          |
| 8   | Main business of site                                                    | Public hos    | pital         |               |                                       |                                                   |        | •·····   |
| 9   | Site staffing: Hours per day                                             |               | 24            | ] Даук ре     | week                                  | 7                                                 |        |          |
| 10  | Site emergency contact                                                   |               | -             | ,             |                                       |                                                   |        |          |
|     | Phone                                                                    |               |               | Name          |                                       |                                                   |        |          |
| 47: | 34.2222                                                                  |               |               | Switchboard   | /Security                             | 1                                                 |        |          |
| 11  | Major supplier of dangerous                                              | goods         | Various       |               |                                       |                                                   |        |          |
| 12  | If a new site or for amendm                                              | ents to depo  | ts-see page 4 | 4 of Guidance | Notes.                                |                                                   |        |          |
| , 2 | Plan stamped by:                                                         |               | ccredited Co  |               |                                       | Date stamp                                        | be     |          |
|     | I have been appeared by                                                  | W.V.Peter     |               |               |                                       |                                                   | 1 2002 | ·····    |
|     |                                                                          | L             |               |               |                                       | . <u>f. f. f</u> |        |          |
|     | ify that the details in this applicat<br>ensable quantities of dangerous |               |               |               | r disk) are                           | e correct and cov                                 | /er    |          |
| 13  | Signature of applicant                                                   | 1             |               | Printed Nam   | 8                                     |                                                   |        | Date     |
|     | YOUR A KU                                                                | vas.          |               | MA            | CK B                                  | ETROS                                             |        | 8.1.03   |
|     | Please send your application<br>WorkCover NSW, LO                        |               |               |               | · · · · · · · · · · · · · · · · · · · | oods Licensin                                     | ig,    |          |

10 820-201 ( ) ) ( ) ( )

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WarkGover/Nev/ South/Wales 200 Kent Street (Sydney/2000), Tel 9370 5000, Fax: 9370 5999

Licence No. 35/003838

SERVICE CENTRE

WORKCOVER Newsouthwales



## APPLICATION FOR RENEWAL

OF LICENCE TO KEEP DANGEROUS GOODS

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

DECLARATION: Please renew licence number 35/003838 to 6/11/2003 . I confirm that all the licence details shown below are correct (amend if necessary).

(Signature) for: NEPEAN DISTRICT HOSPITAL MARK BETRES . (Please print name)

14.10.02 (Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO: (please do not fax)WorkCover New South WalesEnquiries: ph (02) 9370 5187Dangerous Goods Licensing Sectionfax (02) 9370 6104GPO BOX 5364SYDNEY 2001

## Details of licence on 2 October 2002

Licence Number 35/003838 Expiry Date 6/11/2001

Licensee NEPEAN DISTRICT HOSPITAL

Postal Address: BOX 63 P O PENRITH PRIVATE BOXES NSW 2751

Licensee Contact MARK BETROS Ph. 047 24 2414 Fax. 047 24 2310

Premises Licensed to Keep Dangerous Goods NEPEAN DISTRICT HOSPITAL GREAT WESTERN HWY KINGSWOOD 2747

Nature of Site HOSPITALS (EXCEPT PSYCHIATRIC HOSPITALS)

Major Supplier of Dangerous Goods BOC

Emergency Contact for this Site MARK BETROS Ph. 047 24 2414

Site staffing 24HRS 7DAYS

|--|

| Depot No. | Depot Type       | Goods Stored in Depot  | Qty      |
|-----------|------------------|------------------------|----------|
| 1         | EXEMPT - TANK    | Class C1               | 20000 L  |
|           | UN 00C1 DIESE    | L                      | 20000 L  |
| 10        | EXEMPT - STORAGE | AREA Class 2.2         | 280 M3   |
|           | UN 1070 NITRO    | US OXIDE               | 275 M3   |
| 11        | EXEMPT - STORAGE | AREA Class 8           | 10 KG    |
|           | UN 1791 HYPOC    | HLORITE SOLUTION       | 10 KG    |
| 2         | ROOFED STORE     | Class 3                | 80 L.    |
|           | UN 1170 ETHAN    | OL (ETHYL ALCOHOL)     | 40 L     |
|           | UN 1307 XYLEN    | ES                     | 40 L     |
| 4a        | ABOVE-GROUND TAN | IK Class 2.2           | 15000 L  |
|           | UN 1073 OXYGE    | N, REFRIGERATED LIQUID | 15000 L  |
| 4b        | EXEMPT - STORAGE | AREA Class 2.2         | 128 M3   |
|           | UN 1072 OXYGE    | EN, COMPRESSED         | 128 M3   |
| 5         | EXEMPT - STORAGE | AREA Class 2.2         | 450000 L |
|           | UN 1070 NITRO    | US OXIDE               | 183900 L |
|           | UN 1072 OXYGE    | EN, COMPRESSED         | 230240 L |
|           |                  |                        |          |



Licence No. 35/003838



## **APPLICATION FOR RENEWAL**

OF LICENCE TO KEEP DANGEROUS GOODS

|     |                                                                                 | D DECULATION THERE INDER |
|-----|---------------------------------------------------------------------------------|--------------------------|
|     | ISSUED UNDER AND SUBJECT TO THE PROVISIONS OF THE DANGEROUS GOODS ACT, 1975 ANI |                          |
|     | EXEMPT - STORAGE AREA Class 2.2                                                 | 200 MIJ                  |
| 6   | UN 1070 NITROUS OXIDE                                                           | 275 M3                   |
|     |                                                                                 | 40 L                     |
| 7   | EXEMPT - STORAGE AREA Class C1                                                  | 40 L                     |
| •   | UN 00C1 DIESEL                                                                  | •• =                     |
| ~   | EXEMPT - STORAGE AREA Class 8                                                   | 120 L                    |
| 8   |                                                                                 | 80 KG                    |
|     | UN 1823 SODIUM HYDROXIDE, SOLID                                                 | 40 L                     |
|     | UN 1824 SODIUM HYDROXIDE SOLUTION                                               | 60 L                     |
| 0.0 | EXEMPT - STORAGE AREA Class 6.1                                                 | •••                      |
| 9a  | UN 2810 TOXIC LIQUID, ORGANIC, N.O.S.,                                          | 60 L                     |
|     |                                                                                 | 40 L                     |
| 9b  | EXEMPT - STORAGE AREA Class 8                                                   | 40 L                     |
|     | UN 1760 CORROSIVE LIQUID, N.O.S.                                                | 40 L                     |
|     |                                                                                 |                          |

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Ref: AE/FO: 180/95

Geoff B JOHNSTON Acting Engineer / Fire Officer The Nepean Hospital PO Box 63 PENRITH NSW 2750

The Nepean Hospital, Penrith

- The Governor Phillip Special Hospital
  - Community Health Services

Address all correspondence to:

The General Manager PO Box 63, Penrith NSW 2751

> Telephone: (047) 24 2000 Facsimile: (047) 32 3752

23 September 1995

- 「「「「「「「」」」」

247020-1-1-1

Chief Inspector Dangerous Goods Work Cover Authority Locked Bag 10 **Clarence Street** SYDNEY NSW 2000

Dear Sir / Madam

In reference to your letter dated 20 September 1995 relating to our Dangerous Goods licence No: 35/003838.

The 9 000 Ltr petroleum tank is no longer in use by the Hospital and has been evacuated, filled with sand and all pipework's removed.

This work was carried out by Public Works who are responsible for the redevelopment works being undertaken on the Hospital campus approximately twelve (12) months ago.







.....

- 5 x 5.emergency cylinder supply and manifold V.I.E. control board Telemetry Existing on site are the following:-Concrete slab
- Chain wire enclosure Remote fill point
- 415V power outlet
- Tanker hardstanding.

This drawing shows both existing and proposed new buildings. The separation distances for buildings or structures on site are as follows:-15m for combustible exterior 8m for non-combustible exterior 1.5m for 4 hour fire resistant.

Separation distances for materials which may be stored on site are as follows: 15m for rapid burning materials 8m for slow burning materials.

All dimensions shown are in mm.

Project

NEPEAN DISTRICT HOSPITAL, PARKER STREET, PENRITH, 2750.



GASES DIVISION - N.S.W. INSTALLATIONS DEPARTMENT

| Scale         | Date              |
|---------------|-------------------|
| 1:100         | NOV.23, 1993      |
| Drawn by      | Prepared for      |
| L.J. DRAFTING | <b>A. McKEOWN</b> |
| Checked       | Approved          |
| Drawing Title |                   |

PROPOSED VIE15000 LIQUID OXYGEN VESSEL INSTALLATION

Drawing No.

Rev.

A2-93/3821



# PETROLINK PTY.LTD.

A.C.N. 002 864 002

Commercial Fuel Installations – Pump Sales & Service Computerised Fuel Management Systems Accredited Dangerous Goods Consultants

> Lot 44 Tilba Road, (P.O. BOX 8) MULGOA 2745 Phone; (047) 73 8521 Fax: (047) 73 8697

> > 18

## Inflammable Liquid Act, 1915 Dangerous Goods Act, 1975

# CONTRACTORS CERTIFICATE

I hereby certify that the tank/s indicated below have been abandoned by the removal of all inflammable liquid, filled and sealed / removed to the requirements of the Chemical Safety Unit of the WorkCover Authority, Dangerous Goods Department.

| Company:-            | Nepeon Hospitel                                              |
|----------------------|--------------------------------------------------------------|
| Address of Premises: | Nepeon Hospital<br>Second Ave Kingswood. 25,0038 7<br>Pennth |
| Tanks Abandoned:-    | 1 x 25,000 litre                                             |
|                      | Underground Tark                                             |
| Method Used:-        | Concrete Grout Fulled<br>Fill, suchish + Vent sealed         |
|                      | 1. A. PRECENVED IN                                           |
|                      | Signed:- $\frac{16/2}{95}$                                   |
|                      | · · · · · · · · · · · · · · · · · · ·                        |

To:-Chief Inspector of Dangerous Goods, WorkCover Authority Locked Bag 10 Post Office Clarence Street, <u>SYDNEY, NSW, 2000.</u>



| Application is<br>premises descr                                      | ibad/Belów        | *the transfer of the transfer |                                                  | ice) for the keeping of dangero                                                    | $\sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{j$ |
|-----------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FEE: \$10.00 j                                                        | 18 AUG            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | is not required)                                 |                                                                                    | o ato ng ato o gao a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Name of Appl<br>(see over)                                            | icant in full     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  | Given Names MENNET                                                                 | U COCERANN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Trading name<br>name (if any                                          | or occupier's     | CHIER.<br>NEPLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | EXECUTIVIL<br>[]157Prc7                          | MOSPITHE.<br>NOSPITHE.<br>N.PITH PO                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Postal address                                                        |                   | p.o. Box                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 63 PH                                            | v,p,774 Pc                                                                         | ostcode 2750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Telephone nu                                                          | mber of applicant | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 047                                              | Number 2/02                                                                        | 81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| which the d<br>situated (<br>number, if a                             | iny)              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  | W KINGSWOOD P                                                                      | ostcode 7750 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nature of pre                                                         | mises (see over)  | <u>}</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  | Y DIAN                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                       |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ASE ATTACH SIT                                   |                                                                                    | <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Particulars of                                                        | type of depots an | nd maximum quan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | tities of dangerous g                            | goods to be kept at any one time                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Denot                                                                 | Type of           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | D.01494                                          |                                                                                    | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                                                                       | Type of (see      | over)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | capacity<br>9000                                 | MINERAL SPIR                                                                       | Office use only           17         2.020.93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number                                                                | (see              | over)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | capacity                                         |                                                                                    | Office use only           17         2.020.93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number<br>1                                                           | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR                                                                       | Office use only           17         2.020.93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number<br>1<br>2                                                      | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR                                                                       | Office use only           17         2.020.93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number<br>1<br>2<br>3<br>4<br>5                                       | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR                                                                       | Office use only           17         2.020.93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number<br>1<br>2<br>3<br>4<br>5<br>6                                  | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR.<br>KIQUID OXYGEN.                                                    | Office use only<br>1. 2. 0.20, 93<br>1.100, 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| number<br>1<br>2<br>3<br>4<br>5<br>6<br>7                             | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR.<br>LIQUID OXYGEN.                                                    | Office use only<br>1. 2. 0.20, 93<br>1.100, 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| number<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8                        | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR.<br>LIQUID OXYGEN.                                                    | Office use only           17         2.020,93                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| number                                                                | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR<br>LIQUID OXYGEN.<br>SEGTORS FIELD COLL<br>REFERENCE No. 2.8.<br>DATE | Office use only<br>1. 2. 0.20, 93<br>1.100, 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| number<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10             | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR<br>LIQUID OXYGEN.<br>SECTORS FIELD COLL<br>NORDEFET NO. 287<br>DATE   | Office use only<br>1. 2. 0.20, 93<br>1.100, 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| number                                                                | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000                                 | MINERAL SPIR<br>LIQUID OXYGEN.<br>SEGTORS FIELD COLL<br>REFERENCE No. 2.8.<br>DATE | Office use only<br>1. 2. 0.20, 93<br>1.100, 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| number<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12 | (see              | OVER)<br>LIND SANK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | capacity<br>9000 <sup></sup><br>1140 <sup></sup> | MINERAL SPIR<br>LIQUID OXYGEN.<br>SEGTORS FIELD COLL<br>REFERENCE No. 2.8.<br>DATE | Office use only<br>17. 2.020,93<br>1.100,13<br>507,04<br>81.<br>20<br>1.100,13<br>1.100,13<br>1.100,13<br>1.100,13<br>1.100,13<br>1.100,13<br>1.100,13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|-------------------------------------------------------------|---------|
| For external explosives magazine(s), please fill in side 2. | a start |

FOR OFFICE USE ONLY CERTIFICATE OF INSPECTION 









|                                                                                                                                                    |        |                           |                             | G                 | olde                  | er<br>ates                                               |           |                |             | REPORT                                                                                                                                                                                  | OF       | B                         | OREHOLE: BH01                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|-----------------------------|-------------------|-----------------------|----------------------------------------------------------|-----------|----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------|------------------------------------------------------------------------------------------------|
|                                                                                                                                                    | PR     | IENT<br>OJE               | Γ:                          | Hea<br>Red        | lth Infras<br>evelopm | attes<br>structure<br>nent Stage 3A<br>ean Health Campus |           |                |             | RDS: 288170.0 m E 6262009.0 m N MGA94 56<br>NATION: -90°                                                                                                                                |          | DRILI<br>CON <sup>-</sup> | ET: 1 OF 1<br>L RIG: Hand Auger<br>TRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 30/4/10 |
|                                                                                                                                                    | JO     | B NC                      | D:                          | 1076              | 622059                |                                                          |           |                | HOLE        | DEPTH: 0.75 m                                                                                                                                                                           | (        | CHEO                      | CKED: CSC DATE: 26/5/10                                                                        |
|                                                                                                                                                    |        |                           |                             | ling              | 1                     | Sampling                                                 |           |                |             | Field Material Desc                                                                                                                                                                     |          |                           |                                                                                                |
|                                                                                                                                                    | METHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL           | SAMPLE OR<br>FIELD TEST                                  | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                          | MOISTURE | CONSISTENCY<br>DENSITY    | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                    |
|                                                                                                                                                    |        | L-M                       |                             | 0.0 —             | 0.10                  | BH1/1 0.05-0.15 m<br>R=1A                                |           |                | XXXXX       | FILL: Sandy SILT<br>brown, with some medium sized gravel                                                                                                                                | м        |                           | FILL                                                                                           |
|                                                                                                                                                    |        | н                         | t Encountered               | -                 | 0.30                  | BH1/2 0.25-0.35 m<br>R=2A<br>PID = 1.3 ppm               |           |                | ****        | FILL: Road Base materials asphalt and concrete                                                                                                                                          | D        | -                         | asphalt, concrete                                                                              |
|                                                                                                                                                    | HA     | М                         | Groundwater Not Encountered | 0.5—              | 0.60                  |                                                          |           |                | CH          | Silty CLAY                                                                                                                                                                              |          | _                         | RESIDUAL SOIL                                                                                  |
|                                                                                                                                                    |        | M-H                       |                             | -                 | -                     | BH1/3 0.65-0.75 m<br>R=0A<br>PID = 1.5 ppm               |           | ~^<br>         | ×<br>       | high plasticity, red brown, trace of some ironstone gravel, inferred stiff                                                                                                              | D - N    | 1                         |                                                                                                |
| ŀ                                                                                                                                                  |        |                           |                             |                   |                       |                                                          |           | <u> </u>       |             | END OF BOREHOLE @ 0.75 m                                                                                                                                                                |          |                           |                                                                                                |
|                                                                                                                                                    |        |                           |                             | -                 | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| .2.006                                                                                                                                             |        |                           |                             | 1.0 —             | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           | -                                                                                              |
| 2010 16:30 8                                                                                                                                       |        |                           |                             | -                 | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| /ingFile>> 01/07/2                                                                                                                                 |        |                           |                             | -                 | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| .GPJ < <draw< td=""><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></draw<> |        |                           |                             | -                 |                       |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| GAP 8_05ALIB.GLB Log_GAP NON-CORED FULL PAGE_107622059_NEPEAN HOSPITAL.GPJ_ <cdrawingfile>&gt; 01/07/2010 16:30_8.2006</cdrawingfile>              |        |                           |                             | -<br>1.5—         | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           | -                                                                                              |
| JLL PAGE 10762205                                                                                                                                  |        |                           |                             | -                 | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| RED FU                                                                                                                                             |        |                           |                             |                   |                       |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| VON-CO                                                                                                                                             |        |                           |                             | =                 |                       |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| 1 GAP N                                                                                                                                            |        |                           |                             | -                 | -                     |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| SLB Log                                                                                                                                            |        |                           |                             |                   |                       |                                                          |           |                |             |                                                                                                                                                                                         |          |                           |                                                                                                |
| GAP 8_05A LIB.(                                                                                                                                    |        |                           | 1                           | 2.0—              |                       | onmental purposes o                                      | only,     | withou         | t atte      | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose | signi    |                           |                                                                                                |

| F      | PRC         | ENT<br>CJE                | -:<br>CT:<br>ION:           | Heal<br>Red<br>Pen                                                                                 | th Infras<br>evelopm                 | er<br>ates<br>structure<br>nent Stage 3A<br>ean Health Campus                            |           | I              | NCL         | RDS: 288158.0 m E 6262010.0 m N MGA94 56<br>INATION: -90°<br>E DEPTH: 0.80 m                                                                                                                                                                                                                                                                                                                                                                                                                                             | [<br>(                | DRILI<br>CON <sup>-</sup><br>LOG( | T: 1 OF 1<br>RIG: Hand Auger<br>RACTOR: Golder Associates Pty Ltr<br>GED: MB DATE: 30/4/10<br>CKED: CSC DATE: 26/5/10 |
|--------|-------------|---------------------------|-----------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------|-----------|----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|        |             |                           | Dril                        | ling                                                                                               |                                      | Sampling                                                                                 |           |                |             | Field Material De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | scriptio              | n                                 |                                                                                                                       |
| METHOD | BENETBATION | PENEIRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres)                                                                                  | DEPTH<br>RL                          | SAMPLE OR<br>FIELD TEST                                                                  | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | MOISTURE<br>CONDITION | CONSISTENCY<br>DENSITY            | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                           |
|        |             | L-M<br>M-H<br>M-H         | Groundwater Not Encountered | 0.5<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | 0.10<br>0.30<br>0.40<br>0.50<br>0.60 | BH2/1 0.05-0.15 m<br>R=1A<br>PID = 2.5 ppm<br>BH2/2 0.50-0.60 m<br>R=0A<br>PID = 1.1 ppm |           |                | СН          | FILL: Slity SAND         brown, with some small sub-angular gravel         FILL: Sandy SILT         pale brown, with some small sub-angular gravel         : as above but becoming yellow brown with some yellow clay occasional weathered shale         : as above with some coarse rounded dark grey gravel and cobbles         FILL: Sandy SILT         fine to medium, pale brown orange, with increasingly frequent brown red clay         CLAY         high plasticity, red brown         END OF BOREHOLE @ 0.80 m | D - M                 |                                   | FILL<br>asphalt at 0.05m<br>glass at 0.3m<br>RESIDUAL SOIL                                                            |
|        |             |                           |                             | -                                                                                                  |                                      |                                                                                          |           |                |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                                   |                                                                                                                       |

| PR     |                           | T:<br>CT:                   | Hea<br>Red        | lth Infras<br>evelopm | er<br>ates<br>structure<br>nent Stage 3A<br>ean Health Campus |           |                |                    | <b>REPOR</b> I<br>RDS: 288205.0 m E 6262032.0 m N MGA94 56<br>INATION: -90°                                                                                                   | 5<br>[<br>(           | Shee<br>Drili<br>Con <sup>-</sup> | OREHOLE: BH03<br>ET: 1 OF 1<br>L RIG: Hand Auger<br>TRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 29/4/10 |
|--------|---------------------------|-----------------------------|-------------------|-----------------------|---------------------------------------------------------------|-----------|----------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|
| JO     | BNC                       | D:                          | 1076              | 622059                |                                                               |           | ŀ              | HOLE               | E DEPTH: 0.50 m                                                                                                                                                               | (                     | CHEC                              | CKED: CSC DATE: 26/5/10                                                                                         |
|        |                           | Dril                        | ling              |                       | Sampling                                                      |           |                |                    | Field Material D                                                                                                                                                              | <u> </u>              |                                   |                                                                                                                 |
| METHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL           | Sample or<br>Field test                                       | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                | MOISTURE<br>CONDITION | CONSISTENCY<br>DENSITY            | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                     |
|        | L-M                       | ed                          | 0.0-              | 0.45                  | BH3/1 0.00-0.10 m<br>R=1A<br>PID = 0.1 ppm                    |           |                |                    | FILL: Sandy SILT<br>brown, with some yellow/grey clay, occasional gravel                                                                                                      | м                     |                                   | FILL charcoal, concrete at 0.1m                                                                                 |
| НА     | м                         | Groundwater Not Encountered | -                 | 0.15                  | BH3/2 0.15-0.25 m<br>R=1A<br>PID = 0.1 ppm                    |           |                |                    | FILL: : as above but lighten in colour, more clay content                                                                                                                     | м                     | -                                 |                                                                                                                 |
|        | м-н                       | Groundw                     |                   | 0.35                  | BH3/3 0.40-0.50 m<br>R=1A<br>PID = 0.1 ppm                    |           |                |                    | FILL: Silty CLAY<br>high plasticity, orange brown, trace gravel                                                                                                               | м                     | -                                 |                                                                                                                 |
|        |                           |                             | -0.5              |                       |                                                               |           | ~~~~           |                    | END OF BOREHOLE @ 0.50 m                                                                                                                                                      |                       |                                   | inferred concrete slab at 0.5m                                                                                  |
|        |                           |                             |                   | _                     |                                                               |           |                |                    | Refusal on inferred concrete                                                                                                                                                  |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             |                   |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | 1.0—              |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             |                   |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | 1.5—              |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 |                       |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | -                 | _                     |                                                               |           |                |                    |                                                                                                                                                                               |                       |                                   |                                                                                                                 |
|        |                           |                             | 2.0—              | T<br>envir            | onmental purposes o                                           | only, '   | without        | t atte             | n conjunction with accompanying notes and abbreviation<br>mpt to consider geotechnical properties or the geotechn<br>s such it should not be relied upon for geotechnical pur | ical signif           | bee<br>ficanc                     | n prepared for<br>ce of the materials<br>GAP gINT FN. F                                                         |

| PF<br>LC                                                                     | LIENT<br>ROJE<br>DCAT     | :<br>CT:<br>ION:            | Heal<br>Red<br>Peni | ith Infras<br>evelopn<br>rith Nep | er<br>ates<br>structure<br>tent Stage 3A<br>ean Health Campus |           | I              | NCLI        | RDS: 288214.0 m E 6262005.0 m N MGA94 56<br>NATION: -90°                                                                                                                            |          | Shee<br>Drili<br>Con'<br>Log( | OREHOLE: BH04<br>ET: 1 OF 1<br>L RIG: Hand Auger<br>TRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 29/4/10 |
|------------------------------------------------------------------------------|---------------------------|-----------------------------|---------------------|-----------------------------------|---------------------------------------------------------------|-----------|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                              | )B NC                     |                             |                     | 622059                            |                                                               |           | 1              | HOLE        | DEPTH: 0.50 m                                                                                                                                                                       |          |                               | CKED: CSC DATE: 26/5/10                                                                                         |
| _                                                                            | -                         |                             | ling                |                                   | Sampling                                                      |           |                |             | Field Material Des                                                                                                                                                                  |          |                               |                                                                                                                 |
| METHOD                                                                       | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres)   | DEPTH<br>RL                       | SAMPLE OR<br>FIELD TEST                                       | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                      | MOISTURE | CONSISTENCY                   | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                     |
|                                                                              | L-M                       |                             | 0.0-                | 0.10                              | BH4/1 0.05-0.15 m<br>R=1A                                     |           |                |             | FILL: Gravelly SILT<br>brown, with some asphalt                                                                                                                                     | м        |                               | FILL<br>Plastic, glass at 0.05m                                                                                 |
| НА                                                                           | м                         | Groundwater Not Encountered | -                   | 0.30                              | PID = 0.4 ppm                                                 |           |                |             | FILL: Silty CLAY<br>high plasticity, orange brown                                                                                                                                   | D        |                               | Glass                                                                                                           |
|                                                                              | M-H                       | Groundwa                    |                     | -                                 | BH4/2 0.40-0.50 m<br>R=0A<br>PID = 0.1 ppm                    |           | ×              | СН          | Silty CLAY high plasticity, red brown with grey, layering, inferred stiff                                                                                                           |          |                               | RESIDUAL SOIL                                                                                                   |
| GAP 8_00A LIB/GLB LOG GAP NON-CORED FULL PAGE 10/62099_NEFEAN HOSPITAL.GPJ < |                           |                             |                     |                                   |                                                               |           |                |             | END OF BOREHOLE @ 0.50 m<br>REACHED TARGET DEPTH<br>BACKFILLED                                                                                                                      |          |                               |                                                                                                                 |
| GAP 8_US                                                                     |                           |                             |                     |                                   | onmental purposes o                                           | nly,      | withou         | t atte      | n conjunction with accompanying notes and abbreviations<br>mpt to consider geotechnical properties or the geotechnic<br>s such it should not be relied upon for geotechnical purpor | al signi |                               |                                                                                                                 |

|                                                                                                                                       | C      |                           |                             |                                                                                             |                     | er<br>ates<br>structure                         |           |                |                    | REPORT                                                                                                                      |          | SHEE        | OREHOLE: BH05<br>ET: 1 OF 1<br>L RIG: Hand Auger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|-----------------------------|---------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------|-----------|----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                       | PR     | OJE                       | CT:                         | Red                                                                                         | evelopm             | nent Stage 3A                                   |           |                |                    | RDS: 288239.0 m E 6262013.0 m N MGA94 56                                                                                    |          | CON         | TRACTOR: Golder Associates Pty Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                       |        | CATI<br>B NC              | ion:<br>D:                  |                                                                                             | rith Nepe<br>622059 | ean Health Campus                               |           |                |                    | NATION: -90°<br>: DEPTH: 0.70 m                                                                                             |          |             | GED:         MB         DATE:         29/4/10           CKED:         CSC         DATE:         26/5/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| E                                                                                                                                     |        |                           | Dri                         | lling                                                                                       |                     | Sampling                                        |           |                |                    | Field Material Desc                                                                                                         |          |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                                                                                       | MELHOU | PENEIRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres)                                                                           | DEPTH<br>RL         | SAMPLE OR<br>FIELD TEST                         | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                              | MOISTURE | CONSISTENCY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                       | ЧH     | н                         | Groundwater Not Encountered | 0.0                                                                                         | 0.60                | BH5/1 0.15-0.25 m<br>R=1A - 2A<br>PID = 0.3 ppm |           |                | СН                 | FILL: Gravelly SILT<br>pale brown grey                                                                                      | D-1      | л           | FILL         Large fragments of concrete, asphalt and some ceramic waste         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         . |
|                                                                                                                                       | 1      | м-н                       |                             |                                                                                             |                     | R=0A<br>PID = 0.3 ppm                           |           | *              |                    | Silty CLAY<br>high plasticity, brown red, inferred stiff                                                                    | D - 1    | и           | RESIDUAL SOIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| GAP 8_05A LIB.GLB Log_GAP NON-CORED FULL PAGE_10762059_NEPEAN HOSPITAL.GPJ_< <drawingfile>&gt; 01/07/2010 16:31_8.2.006</drawingfile> |        |                           |                             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |                     |                                                 |           |                |                    | END OF BOREHOLE @ 0.70 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                                                |          |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| GAP 8_(                                                                                                                               |        |                           |                             |                                                                                             | envir               |                                                 |           |                |                    | mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose |          | ficano      | ce of the materials<br>GAP gINT FN. F01a<br>RL3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| (                                                                                                                                      |        |                           |                             | G                 | olde                             | er<br>ates                                      |           |                |                    | REPORT                                                                                                                  | OF       |                                   | OREHOLE: BH06                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|-----------------------------|-------------------|----------------------------------|-------------------------------------------------|-----------|----------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------|------------------------------------------------------------------------------------------------|
|                                                                                                                                        | PR     | ENT<br>OJE<br>CATI        | :<br>CT:<br>ION:            | Hea<br>Red<br>Pen | th Infras<br>evelopm<br>ith Nepe | structure<br>nent Stage 3A<br>ean Health Campus |           | I              | NCL                | RDS: 288263.0 m E 6202051.0 m N MGA94 56<br>NATION: -90°                                                                |          | DRILI<br>CON <sup>-</sup><br>LOG( | ET: 1 OF 1<br>L RIG: Hand Auger<br>IRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 29/4/10 |
| F                                                                                                                                      | JOF    | 3 NC                      |                             |                   | 622059                           |                                                 |           |                | HOLE               | DEPTH: 0.65 m                                                                                                           |          |                                   | CKED: CSC DATE: 26/5/10                                                                        |
| ╞                                                                                                                                      |        | -                         |                             | ling              |                                  | Sampling                                        |           |                |                    | Field Material De                                                                                                       |          |                                   |                                                                                                |
|                                                                                                                                        | METHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL                      | SAMPLE OR<br>FIELD TEST                         | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                          | MOISTURE | CONSISTENCY                       | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                    |
| :                                                                                                                                      | HA     | Н                         | Groundwater Not Encountered | 0.0               | 0.40                             | BH6/1 0.10-0.20 m<br>R=1A<br>PID = 0.1 ppm      |           |                |                    | FILL: Gravelly SILT pale brown orange, with some zones of dry orange clay                                               |          |                                   | FILL<br>Fragments of concrete and asphalt                                                      |
|                                                                                                                                        |        | M-H                       | Groundw                     | - 0.5             | 0.40                             | BH6/2 0.55-0.65 m<br>R=0A<br>PID = 0.1 ppm      |           |                | СН                 | Silty CLAY<br>high plasticity, brown-red and grey, inferred very stiff                                                  |          |                                   | RESIDUAL SOIL -                                                                                |
| GAP 8_05A LIB.GLB Log_GAP NON-CORED FULL PAGE_107622059_NEPEAN HOSPITAL.GPJ_< <drawingfile>&gt;_01/07/2010 16:31_8.2.006</drawingfile> |        |                           |                             |                   |                                  | his report of horebole                          |           | st be n        |                    | END OF BOREHOLE @ 0.65 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                                            |          | s hee                             | -                                                                                              |
| GAP 8_05                                                                                                                               |        |                           |                             |                   |                                  | onmental purposes o                             | nly,      | withou         | t atte             | not to consider geotechnical properties or the geotechnic<br>s such it should not be relied upon for geotechnical purpo | al sign  |                                   |                                                                                                |

| ROUECT:         Redevelopment Stage 3A         COORDS:         288284.0 m E 6262084.0 m N MGA94.56         CONTRACTOR:         Golder Associates Py Lt           OCATION:         Penith Nepean Health Campus         INCLINATION:: -90°         LOGGED: MB         DATE: 30/4/10           DB NO:         107522059         HOLE DEPTH: 0.80 m         CHECKED: CSC         DATE: 30/4/10           DB NO:         107522059         HOLE DEPTH: 0.80 m         Field Material Description         DATE: 30/4/10           DB NO:         107522059         SOIL/ROCK MATERIAL DESCRIPTION         US         STRUCTURE AND ADDESCRIPTION         DATE: 30/4/10           DB ND:         107801L         G R         G R         G R         G R         SOIL/ROCK MATERIAL DESCRIPTION         US         STRUCTURE AND ADDESCRIPTION           DB H771         0.50-0.5 m         BH771<0.05-0.15 m         SOIL/ROCK MATERIAL DESCRIPTION         US         SOIL/ROCK MATERIAL DESCRIPTION         DESCRIPTION         SOIDESCRIPTION           L         DB R         DATE: 30/50         SOIL/ROCK MATERIAL DESCRIPTION         DESCRIPTION         SOIDESCRIPTION         DESCRIPTION           L         DB R         DFR         DESCRIPTION         DESCRIPTION         DESCRIPTION         DESCRIPTION         DESCRIPTION           L         DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drilling     Sampling     Field Material Description       No.2     SAMPLE OR<br>FIELD TEST     GB<br>000<br>02     00<br>02     SOIL/ROCK MATERIAL DESCRIPTION     US<br>02<br>02     STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS       L     L     0.0     0.0     0.0     0.0     0.0     0.0     0.0       L     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0       MHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0       MHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHH     0.0     0.0     0.0     0.0     0.0     0.0     0.0       HHT     0.00     0.0     0.0     0.0     0.0     0.0     0.0       HHT     0.0     0.0     0.0     0.0     0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Image: Structure and Deprint RL Hard Bill Rectange of the structure and grey inferred stiff       Image: Structure and Deprint RL Hard Bill Rectange of the structure and grey inferred stiff       Image: Structure and Deprint RL Hard Bill Rectange of the structure and grey inferred stiff       Image: Structure and Deprint RL Hard Bill Rectange of the structure and grey inferred stiff       Image: Structure and Deprint Rectange of the structure and grey inferred stiff       Image: Structure and Deprint Rectange of the structure and grey inferred stiff       Image: Structure and Structure and Structure and Grey Inferred Stiff       Image: Structure and Structure and Grey Inferred Stiff       Image: Structure and Struct |
| u     0.0     0.0     0.05-0     BH7/1 0.05-0.15 m<br>R=0A     D-S ppm     0.02     D-S ppm     0.02     D-M     FILL: Sity SAND<br>pale brown, with some clay     M     FILL:     FILL:     FILL:     Sity SAND<br>pale brown, yellow, with trace white quartz sandstone gravel     D-M     FILL       M-H     0.5-     BH7/2 0.50-0.60 m<br>R=0A     BH7/2 0.50-0.60 m<br>R=0A     FILL:     Sity CLAY     D-M     FILL       M-H     BH7/2 0.50-0.60 m<br>R=0A     BH7/2 0.50-0.60 m<br>R=0A     TOPSOIL     TOPSOIL     FILL:       M-H     BH7/2 0.50-0.60 m<br>R=0A     BH7/2 0.50-0.60 m<br>R=0A     FILL:     Sity CLAY     D-M     FILL       M-H     BH7/2 0.70-0.80 m<br>R=0A     PD = 0.5 ppm     END OF BOREHOLE @ 0.80 m<br>R=0A     D     D     RESIDUAL SOIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| CLIENT:<br>PROJECT:<br>LOCATION:<br>JOB NO: |                           | Golder<br>Health Infrastructure<br>Redevelopment Stage 3A<br>Penrith Nepean Health Campus<br>107622059 |                   |             | COORDS: 288357.0 m E 6262054.0 m N MGA94 56 |                |                |             | SHEET: 1 OF 1<br>DRILL RIG: Hand Auger<br>CONTRACTOR: Golder Associates Pty Ltd                                                   |                                                      |                        |                                             |  |  |
|---------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------|-------------------|-------------|---------------------------------------------|----------------|----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------|---------------------------------------------|--|--|
|                                             |                           |                                                                                                        |                   |             | INCLINATION: -90°<br>HOLE DEPTH: 0.60 m     |                |                |             |                                                                                                                                   | LOGGED: MB DATE: 30/4/1<br>CHECKED: CSC DATE: 26/5/1 |                        |                                             |  |  |
|                                             |                           | Dril                                                                                                   | lling Sampling    |             | Sampling                                    | Field Material |                |             |                                                                                                                                   |                                                      | Description            |                                             |  |  |
|                                             | PENETRATION<br>RESISTANCE | WATER                                                                                                  | DEPTH<br>(metres) | DEPTH<br>RL | SAMPLE OR<br>FIELD TEST                     | RECOVERED      | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                    | MOISTURE                                             | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS |  |  |
|                                             | M-H                       |                                                                                                        | 0.0               | 0.20        | BH8/1 0.00-0.10 m<br>R=0A<br>PID = 2.1 ppm  |                |                |             | FILL: Clayey Sandy SILT pale brown with some red and grey clay, occasional gravel                                                 | м                                                    |                        | FILL                                        |  |  |
|                                             | м                         | Groundwater Not Encountered                                                                            | -                 | 0.30        | BH8/2 0.20-0.30 m<br>R=0A<br>PID = 2.8 ppm  |                | ×              | СН          | FILL: : as above becoming orange and with less gravel Sitty CLAY high plasticity, orange brown and red, with trace fine ironstone |                                                      | _                      | RESIDUAL SOIL                               |  |  |
|                                             | м-н                       | Groundwat                                                                                              | - 0.5             |             | BH8/3 0.50-0.60 m                           |                | ×              |             | gravel and sand, inferred stiff                                                                                                   | D - N                                                | n                      |                                             |  |  |
|                                             |                           |                                                                                                        |                   |             | R=0A<br>PID = 2.5 ppm                       |                | ×^             |             | END OF BOREHOLE @ 0.60 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                                                      |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -<br>1.0 —        |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -                 |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -                 |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -<br>1.5—         |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -                 |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | -                 |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
|                                             |                           |                                                                                                        | - 2.0-            |             |                                             |                |                |             |                                                                                                                                   |                                                      |                        |                                             |  |  |
| (                                                                                                                                     |          |                           |                             | G                                                                                           | olde<br>oci           | er<br>ates                                                      |           |                |             | REPORT                                                                                                                                                                                  |        |                                   | OREHOLE: BH09                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------|-----------------------------|---------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------|-----------|----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------|------------------------------------------------------------------------------------------------------------|
|                                                                                                                                       | PR<br>LO | ENT<br>OJE                | :<br>CT:<br>ION:            | Heal<br>Red<br>Pen                                                                          | lth Infras<br>evelopm | structure<br>nent Stage 3A<br>ean Health Campus                 |           | I              | NCLI        | RDS: 288331.0 m E 6262062.0 m N MGA94 56<br>NATION: -90°<br>E DEPTH: 0.75 m                                                                                                             | <br>(  | DRILI<br>CON <sup>-</sup><br>LOG( | L RIG: Hand Auger<br>TRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 3/5/10<br>CKED: CSC DATE: 26/5/10 |
| F                                                                                                                                     |          |                           | Dril                        | lina                                                                                        |                       | Sampling                                                        |           |                |             | Field Material Desc                                                                                                                                                                     | rintic | n                                 |                                                                                                            |
|                                                                                                                                       | METHOD   | PENETRATION<br>RESISTANCE | WATER                       | O DEPTH<br>(metres)                                                                         | DEPTH<br>RL           | SAMPLE OR<br>FIELD TEST                                         | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                          |        | CONSISTENCY<br>DENSITY            | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                |
|                                                                                                                                       | -        | L-M<br>M                  | ered                        | 0.0                                                                                         | 0.10                  | BH9/1 0.05-0.15 m<br>R=0A<br>PID = 1.5 ppm<br>BH9/2 0.25-0.35 m |           |                |             | FILL: Clayey SILT         pale brown, with some gravel, (70% silt, 30% clay)                                                                                                            | _      |                                   | FILL                                                                                                       |
| :                                                                                                                                     | HA       | м-н                       | Groundwater Not Encountered | -                                                                                           | 0.40                  | R=1A<br>PID = 1.5 ppm                                           |           | ×              | СН          | brown orange, with some clay, inclusion of purple/orange coarse<br>gravel<br>Silty CLAY                                                                                                 |        |                                   | asphalt at 0.3m<br>charcoal at 0.36m<br>RESIDUAL SOIL                                                      |
|                                                                                                                                       |          | M-H                       | Groundwa                    | 0.5—                                                                                        | -                     | BH9/3 0.45-0.55 m<br>R=0A<br>PID = 0.6 ppm                      |           |                |             | high plasticity, red brown and grey, inferred stiff                                                                                                                                     | D - N  | n                                 | -                                                                                                          |
| GAP 8_05A LIB.GLB Log GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ < <drawingfile>&gt; 01/07/2010 16:32 8.2006</drawingfile> |          |                           |                             | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |                       |                                                                 |           |                |             | END OF BOREHOLE @ 0.75 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                                                                                                            |        |                                   |                                                                                                            |
| GAP 8_05A LIE                                                                                                                         |          |                           |                             | 2.0—                                                                                        |                       | onmental purposes o                                             | only,     | withou         | t atte      | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose | signi  |                                   |                                                                                                            |

|        | .IENT                     | Г:                          | Heal              | th Infras   | er<br>ates<br>structure<br>nent Stage 3A    |           | C                                       | 200         | RDS: 288371.0 m E 6262053.0 m N MGA94 56                                                                            | [     | DRILL         | T: 1 OF 1<br>RIG: Hand Auge<br>RACTOR: Golde | er<br>er Associates Pty Lto        |
|--------|---------------------------|-----------------------------|-------------------|-------------|---------------------------------------------|-----------|-----------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------|-------|---------------|----------------------------------------------|------------------------------------|
| LC     | CAT                       | 'ION:                       | Penr              | ith Nepe    | ean Health Campus                           |           | I                                       | NCL         | INATION: -90°                                                                                                       | I     | LOGO          | GED: MB                                      | DATE: 3/5/10                       |
| JC     | B NC                      |                             |                   | 622059      |                                             |           |                                         | IOLE        | E DEPTH: 0.85 m                                                                                                     |       |               | KED: CSC                                     | DATE: 26/5/10                      |
| METHOD | PENETRATION<br>RESISTANCE | Dril                        | DEPTH<br>(metres) | DEPTH<br>RL | SAMPLE OR<br>FIELD TEST                     | RECOVERED | GRAPHIC<br>LOG                          | USCS SYMBOL | Field Material De                                                                                                   |       | CONSISTENCY U | AD                                           | CTURE AND<br>DITIONAL<br>ERVATIONS |
| 2      |                           | >                           | 0.0               | RL          | BH10/1 0.05-0.15 m<br>R=0A                  |           |                                         |             | FILL: Sandy SILT<br>with some red brown clay, occasional small gravel                                               |       |               | FILL                                         |                                    |
|        | L-M                       | -                           | -                 | 0.20        | PID = 0.5 ppm                               |           |                                         |             | FILL: : as above becoming orange with some coarse orange brown gravel                                               | м     |               |                                              |                                    |
|        | м                         | ountered                    | -                 | 0.30        | BH10/2 0.30-0.40 m<br>R=0A<br>PID = 0.6 ppm |           |                                         |             | FILL: Silty CLAY<br>high plasticity, orange brown and grey                                                          |       | -             |                                              |                                    |
| НА     |                           | Groundwater Not Encountered | - 0.5 —           |             |                                             |           |                                         |             |                                                                                                                     | D - N | 1             |                                              |                                    |
|        | м-н                       | Gro                         | -                 | 0.55        |                                             |           | ×                                       | СН          | Sitty CLAY<br>high plasticity, brown and grey, with some sand and ironstone<br>gravel, inferred stiff to very stiff |       |               | RESIDUAL SOIL                                |                                    |
|        |                           |                             | -                 |             | BH10/3 0.70-0.80 m<br>R=0A<br>PID = 0.1 ppm |           | × · · · · · · · · · · · · · · · · · · · |             |                                                                                                                     | D - N | 1             |                                              |                                    |
|        |                           |                             |                   |             |                                             |           | ×                                       |             | END OF BOREHOLE @ 0.85 m<br>REACHED TARGET DEPTH<br>BACKFILLED                                                      |       |               |                                              |                                    |
|        |                           |                             | 1.0—              |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | 1.5—              |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |
|        |                           |                             | -                 |             |                                             |           |                                         |             |                                                                                                                     |       |               |                                              |                                    |

| С                                                                                                                                       |                           |                             |                   |             | er<br>ates                                  |           |                      |             | REPORT                                                                                                                                                                                  | :                     | SHEE                     | OREHOLE: BH11<br>ET: 1 OF 1<br>L RIG: Hand Auger                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|-------------------|-------------|---------------------------------------------|-----------|----------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------|--------------------------------------------------------------------------------------------------------------|
| PF<br>LC                                                                                                                                | ROJE<br>DCAT<br>DB NC     | CT:<br>ION:                 | Red<br>Pen        | evelopm     | eent Stage 3A<br>ean Health Campus          |           | I                    | NCLI        | RDS: 288370.0 m E 6262071.0 m N MGA94 56<br>NATION: -90°<br>E DEPTH: 0.90 m                                                                                                             | (<br>                 | CON <sup>-</sup><br>LOG( | TRACTOR: Golder Associates Pty Ltd         GED: MB       DATE: 30/4/10         CKED: CSC       DATE: 26/5/10 |
|                                                                                                                                         |                           | Dril                        | ling              |             | Sampling                                    |           |                      |             | Field Material Desc                                                                                                                                                                     |                       |                          |                                                                                                              |
| METHOD                                                                                                                                  | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL | SAMPLE OR<br>FIELD TEST                     | RECOVERED | GRAPHIC<br>LOG       | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                          | MOISTURE<br>CONDITION | CONSISTENCY<br>DENSITY   | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                  |
|                                                                                                                                         | м                         |                             | 0.0—              | 0.20        | BH11/1 0.05-0.15 m<br>R=1A<br>PID = 1.2 ppm |           |                      |             | TOPSOIL: Gravelly SILT<br>brown and red brown grey, dry and brittle, fine to medium gravel                                                                                              | D                     |                          | TOPSOIL<br>occasional concrete fragment                                                                      |
|                                                                                                                                         | м                         |                             | -                 | 0.30        | BH11/2 0.25-0.35 m<br>R=0A                  |           |                      |             | FILL: Silty CLAY<br>high plasticity, pale brown orange, trace ironstone, inferred stiff                                                                                                 |                       |                          | FILL                                                                                                         |
|                                                                                                                                         |                           | Encountered                 | -                 | 0.40        | PID = 1.3 ppm                               |           |                      | СН          | : as above becoming more silty<br>Silty CLAY                                                                                                                                            |                       |                          | RESIDUAL SOIL                                                                                                |
| ΗA                                                                                                                                      |                           | Groundwater Not Encountered | 0.5—              | -           |                                             |           | ^                    |             | bigh plasticity, red brown and grey, with trace fine black<br>sub-rounded ironstone gravel, inferred stiff                                                                              |                       |                          | RESIDUAL SUIL                                                                                                |
|                                                                                                                                         | M-H                       | U                           |                   | -           |                                             |           | ×^<br>×^<br>×^<br>×^ |             |                                                                                                                                                                                         | D - N                 | 1                        |                                                                                                              |
|                                                                                                                                         |                           |                             | -                 | -           | BH11/3 0.80-0.90 m<br>R=0A<br>PID = 1.3 ppm |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| .006                                                                                                                                    |                           |                             | 1.0 —             | -           |                                             |           |                      |             | END OF BOREHOLE @ 0.90 m<br>REACHED TARGET DEPTH<br>BACKFILLED                                                                                                                          |                       |                          |                                                                                                              |
| //2010 16:33 8.2                                                                                                                        |                           |                             | -                 | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| wingrie>> 01/0                                                                                                                          |                           |                             |                   | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| IAL.GPJ < <u< td=""><td></td><td></td><td>-</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></u<> |                           |                             | -                 | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| IEPEAN HUSH                                                                                                                             |                           |                             | 1.5—              | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| N_660229101 -                                                                                                                           |                           |                             | -                 | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| ED FULL PAGE                                                                                                                            |                           |                             |                   | -           |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| GAP 8_05A LIB/GLB LOG GAP NON-CORED FULL PAGE 107622089_NEFEAN HOSPITAL.GPJ < <drammgfile>&gt; 01/07/2010 16:33 8/2</drammgfile>        |                           |                             | -                 |             |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| - IB.GLB LOG                                                                                                                            |                           |                             | 2.0-              |             |                                             |           |                      |             |                                                                                                                                                                                         |                       |                          |                                                                                                              |
| GAP 8_UDA                                                                                                                               |                           |                             |                   |             | onmental purposes o                         | nly, '    | withou               | t atte      | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose | l signi               |                          |                                                                                                              |

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|                                                                                                                                       | Ĵ             |                             | G                 | olde<br>ocia                         | er<br>ates                                                                                                                              |           |                |             | REPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |                        | OREHOLE: BH12                                                                                                        |  |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|-------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|----------------------------------------------------------------------------------------------------------------------|--|
| F                                                                                                                                     | CLIEN<br>PROJ | IT:<br>ECT:<br>TION:        | Hea<br>Red<br>Pen | lth Infras<br>evelopm                | structure<br>nent Stage 3A<br>ean Health Campus                                                                                         |           | I              | NCL         | RDS: 288342.0 m E 6262083.0 m N MGA94 56<br>NATION: -90°<br>E DEPTH: 0.80 m                                                                                                                                                                                                                                                                                                                                                                                                            | [<br>(<br>[           | DRILL<br>CONT<br>LOGO  | T: 1 OF 1<br>RIG: Hand Auger<br>RACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 3/5/10<br>CKED: CSC DATE: 26/5/10 |  |
|                                                                                                                                       |               | Dri                         | lling             |                                      | Sampling                                                                                                                                |           |                |             | Field Material De                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | escriptio             | on                     |                                                                                                                      |  |
| МЕТНОD                                                                                                                                | PENETRATION   | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL                          | SAMPLE OR<br>FIELD TEST                                                                                                                 | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                         | MOISTURE<br>CONDITION | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                          |  |
| 4                                                                                                                                     | L-N           | Groundwater Not Encountered | 0.5               | 0.10<br>0.10<br>0.40<br>0.50<br>0.70 | BH12/1 0.05-0.15 m<br>R=A<br>PID = 1.1 ppm<br>BH12/2 0.40-0.50 m<br>R=A<br>PID = 0.7 ppm<br>BH12/3 0.65-0.75 m<br>R=0A<br>PID = 0.3 ppm | REC       |                |             | FILL: Clayey SILT         pale brown, orange         FILL: Sandy SILT         brown orange, with some clay, with some fine gravel         FILL: Silty GRAVEL         fine to coarse grained, sub-angular, (road base)         Silty CLAY         high plasticity, orange brown with some grey, inferred stiff         Silty CLAY         high plasticity, grey red, inferred very stiff         END OF BOREHOLE @ 0.80 m         REACHED TARGET DEPTH         Backfilled with cuttings | D - M                 |                        | FILL<br>glass<br>asphalt<br>RESIDUAL SOIL                                                                            |  |
| GAP 8_05A LIB GLB Log GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ < <drawingfile>&gt; 01/07/2010 16:33 8.2006</drawingfile> |               |                             | 1.5               |                                      | onmental purposes o                                                                                                                     | nly,      | withou         | t atte      | n conjunction with accompanying notes and abbreviation<br>mpt to consider geotechnical properties or the geotechni<br>s such it should not be relied upon for geotechnical purp                                                                                                                                                                                                                                                                                                        | cal signif            |                        |                                                                                                                      |  |

| PF<br>LC | IENT<br>ROJE<br>DCAT      | CT:<br>ION:                 | Red<br>Pen        | evelopm            | erres<br>structure<br>eent Stage 3A<br>ean Health Campus |           | I                             | NCL         | RDS: 288219.0 m E 6262259.0 m N MGA94 56<br>INATION: -90°<br>E DEPTH: 1.10 m                           | [<br>(<br> | DRILI<br>CONT<br>LOGO  | T: 1 OF 1<br>_ RIG: Hand Auger<br>IRACTOR: Golder Associates Pty Ltc<br>GED: MB DATE: 29/4/10<br>CKED: CSC DATE: 26/5/10 |
|----------|---------------------------|-----------------------------|-------------------|--------------------|----------------------------------------------------------|-----------|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------|------------|------------------------|--------------------------------------------------------------------------------------------------------------------------|
|          |                           | Dril                        | ling              |                    | Sampling                                                 |           |                               |             | Field Material Desc                                                                                    | <u> </u>   |                        |                                                                                                                          |
| METHOD   | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | <i>DEPTH</i><br>RL | Sample or<br>Field test                                  | RECOVERED | GRAPHIC<br>LOG                | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                         | MOISTURE   | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                              |
|          | м                         |                             | 0.0—              | 0.10               |                                                          |           | <u>717 7</u><br>77 77<br>74 7 |             | TOPSOIL: Gravelly CLAY<br>high plasticity, brown, fine to medium, sub-angular, high strength<br>gravel | D          |                        | TOPSOIL                                                                                                                  |
|          | M-H                       | untered                     | -                 | -                  | BH13/1 0.10-0.20 m<br>R=0A<br>PID = 0.1 ppm              |           |                               |             | FILL: Silty CLAY<br>high plasticity, pale brown, (40% silt), some fine sand with traces<br>of gravel   |            |                        | FILL                                                                                                                     |
| HA       |                           | Groundwater Not Encountered | 0.5 —             | 0.60               | BH13/2 0.60-0.70 m                                       |           |                               |             | as above with occasional black fractured gravel, sub-angular                                           | D          |                        |                                                                                                                          |
|          |                           | Ground                      |                   | 0.75               | R=0A<br>PID = 0.3 ppm                                    |           |                               |             | approx 15mm diameter, becoming darker                                                                  |            |                        |                                                                                                                          |
|          | м                         |                             | -                 | 0.90               |                                                          |           |                               |             | FILL: Silty CLAY<br>brown with red purple, with some fine to coarse ironstone gravel                   |            |                        |                                                                                                                          |
|          | м                         |                             | -<br>1.0 <i>—</i> | 1.00               | BH13/3 1.00-1.10 m                                       |           |                               | СН          | FILL: Silty SAND<br>with gravel, with sea shells and some clay<br>Silty CLAY                           |            |                        | sea shells<br>RESIDUAL SOIL                                                                                              |
|          | м-н                       |                             |                   |                    | R=0A<br>PID = 0 ppm                                      |           | —_><br>×                      |             | high plasticity, red brown and grey, inferred stiff                                                    | D - N      | 1                      |                                                                                                                          |
|          |                           |                             | -                 | -                  |                                                          |           |                               |             | END OF BOREHOLE @ 1.10 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                           |            |                        |                                                                                                                          |
|          |                           |                             | -                 | -                  |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |
|          |                           |                             | -<br>1.5—         | -                  |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |
|          |                           |                             | -                 | -                  |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |
|          |                           |                             | -                 |                    |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |
|          |                           |                             | -                 |                    |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |
|          |                           |                             | 2.0-              |                    |                                                          |           |                               |             |                                                                                                        |            |                        |                                                                                                                          |

| (        |                                |                                                                                                                                                                                                                                                                                                                                                                   | G                 | olde                  | er<br>ates                                     |           |                                                 |             | REPORT                                                                              |           |                                   | OREHOLE: BH14                                                                                                             |  |
|----------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|------------------------------------------------|-----------|-------------------------------------------------|-------------|-------------------------------------------------------------------------------------|-----------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------|--|
| PF<br>LC | .IENT<br>ROJE<br>DCAT<br>0B NC | :<br>CT:<br>ION:                                                                                                                                                                                                                                                                                                                                                  | Hea<br>Red<br>Pen | lth Infras<br>evelopm | etructure<br>ent Stage 3A<br>ean Health Campus |           | I                                               | NCLI        | RDS: 288211.0 m E 6262282.0 m N MGA94 56<br>NATION: -90°<br>: DEPTH: 1.00 m         |           | DRILI<br>CON <sup>-</sup><br>LOG( | ET: 1 OF 1<br>L RIG: Hand Auger<br>TRACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 29/4/10<br>CKED: CSC DATE: 26/5/10 |  |
|          |                                | Dri                                                                                                                                                                                                                                                                                                                                                               | lling             |                       | Sampling                                       |           |                                                 |             | Field Material Desc                                                                 | riptio    | on                                |                                                                                                                           |  |
| METHOD   | PENETRATION<br>RESISTANCE      | WATER                                                                                                                                                                                                                                                                                                                                                             | DEPTH<br>(metres) | DEPTH<br>RL           | SAMPLE OR<br>FIELD TEST                        | RECOVERED | GRAPHIC<br>LOG                                  | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                      | CONDITION | CONSISTENCY<br>DENSITY            | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                               |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | 0.0-              | 0.10                  | DU144/4_0_40_0.20 m                            |           | <u>11. 11.</u><br>1 <u>. 11. 1</u> .<br>11. 11. |             | TOPSOIL: Clayey SILT<br>high liquid limit, brown, with some gravel                  | м         |                                   | TOPSOIL                                                                                                                   |  |
|          |                                | ered                                                                                                                                                                                                                                                                                                                                                              | -                 | 0.40                  | BH14/1 0.10-0.20 m<br>R=1A<br>PID = 1 ppm      |           |                                                 |             | FILL: Silty CLAY<br>high plasticity, red brown with some grey, trace gravel/asphalt | D - N     | n                                 | FILL<br>charcoal fragments light green tinge                                                                              |  |
| ΗA       |                                | Groundwater Not Encountered                                                                                                                                                                                                                                                                                                                                       | 0.5—              | 0.60                  | BH14/2 0.50-0.60 m<br>R=0A<br>PID = 1.5 ppm    |           |                                                 | СН          | FILL: Silty CLAY<br>high plasticity, pale brown, inferred firm<br>Silty CLAY        | D - N     | 1                                 | RESIDUAL SOIL                                                                                                             |  |
|          | M-H                            | G                                                                                                                                                                                                                                                                                                                                                                 | -                 | 0.80                  | B14/3 0.90-1.00 m                              |           |                                                 |             | as above with some red colour and occasional fine to medium red brown shale gravel  |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | —1.0—             |                       | R=0A<br>PID = 2.6 ppm                          |           |                                                 |             | END OF BOREHOLE @ 1.00 m                                                            |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | -                 | -                     |                                                |           |                                                 |             | REACHED TARGET DĒPTH<br>Backfilled with cuttings                                    |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | -                 | -                     |                                                |           |                                                 |             |                                                                                     |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | -                 | -                     |                                                |           |                                                 |             |                                                                                     |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | -                 | -                     |                                                |           |                                                 |             |                                                                                     |           |                                   |                                                                                                                           |  |
|          |                                |                                                                                                                                                                                                                                                                                                                                                                   | -                 | -                     |                                                |           |                                                 |             |                                                                                     |           |                                   |                                                                                                                           |  |
|          |                                | 2.0 This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes. GAP gINT FN. F01a RL3 |                   |                       |                                                |           |                                                 |             |                                                                                     |           |                                   |                                                                                                                           |  |

GAP 8\_05A LIB.GLB Log GAP NON-CORED FULL PAGE 107622059\_NEPEAN HOSPITAL.GPJ <<DrawingFile>> 01/07/2010 16:34 8.2.006

|        | LIENT<br>ROJE             | :                           | Heal              | th Infras         | er<br>ates<br>structure<br>nent Stage 3A    |           | (              | 2001               | RDS: 288221.0 m E 6262278.0 m N MGA94 56                                                          | I        | DRILI                  | ET: 1 OF 1<br>_ RIG: Hand Auger<br>IRACTOR: Golder Associates Pty Ltd                                   |
|--------|---------------------------|-----------------------------|-------------------|-------------------|---------------------------------------------|-----------|----------------|--------------------|---------------------------------------------------------------------------------------------------|----------|------------------------|---------------------------------------------------------------------------------------------------------|
|        | DCAT                      |                             |                   | ith Nepe<br>22059 | ean Health Campus                           |           |                |                    | NATION: -90°<br>E DEPTH: 1.00 m                                                                   |          |                        | GED:         MB         DATE:         29/4/10           CKED:         CSC         DATE:         26/5/10 |
|        |                           | Dril                        | ling              |                   | Sampling                                    |           |                |                    | Field Material Desc                                                                               |          |                        |                                                                                                         |
| METHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL       | SAMPLE OR<br>FIELD TEST                     | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                    | MOISTURE | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                             |
|        | L-M                       |                             | 0.0 —             | 0.10              | BH15/1 0.05-0.15 m<br>R=1A                  |           | <u></u>        |                    | TOPSOIL: Clayey SILT<br>high liquid limit, pale brown                                             | D - N    | a                      | TOPSOIL<br>brick fragments                                                                              |
|        | м                         |                             | _                 | 0.20              | PID = 1.2 ppm                               |           |                |                    | FILL: Silty SAND<br>dark brown, with some gravel                                                  | D        |                        | FILL                                                                                                    |
|        |                           |                             | -                 | 0.30              | DI 145/2 0 20 0 25 m                        |           |                |                    | FILL: Sitty CLAY<br>high plasticity, brown grey, inferred firm                                    |          |                        | terms of channel                                                                                        |
|        | м-н                       | ntered                      | -                 | 0.40              | BH15/2 0.30-0.35 m<br>R=1A<br>PID = 0.8 ppm |           |                |                    | FILL: Clayey SILT<br>high liquid limit, brown, with some gravel, and roadbase<br>FILL: Silty CLAY | -D - N   | 4                      | traces of charcoal                                                                                      |
| НA     | м                         | Groundwater Not Encountered | 0.5—              | 0.60              |                                             |           |                |                    | FILL: Slity CLAY<br>medium plasticity, red brown, inferred firm                                   |          |                        |                                                                                                         |
|        |                           | Groui                       | -                 | 0.00              |                                             |           |                | CH                 | Silty CLAY<br>high plasticity, pale brown and grey, inferred stiff, with trace roots              |          |                        | RESIDUAL SOIL                                                                                           |
|        | м-н                       |                             | -                 |                   | BH15/3 0.90-1.00 m<br>R=0A<br>1.1           |           |                |                    |                                                                                                   | D - N    | n                      |                                                                                                         |
|        |                           |                             |                   |                   |                                             |           |                |                    | END OF BOREHOLE @ 1.00 m<br>REACHED TARGET DEPTH<br>Backfilled with cuttings                      |          |                        |                                                                                                         |
|        |                           |                             | -                 |                   |                                             |           |                |                    |                                                                                                   |          |                        |                                                                                                         |
|        |                           |                             | -                 |                   |                                             |           |                |                    |                                                                                                   |          |                        |                                                                                                         |
|        |                           |                             | -                 |                   |                                             |           |                |                    |                                                                                                   |          |                        |                                                                                                         |
|        |                           |                             | 2.0—              |                   |                                             |           |                |                    |                                                                                                   |          |                        |                                                                                                         |

| PI<br>L(                                                                                                            | CLIENT:       Health Infrastructure         PROJECT:       Redevelopment Stage 3A         LOCATION:       Penrith Nepean Health Campus         JOB NO:       107622059 |                             |                                                           |                              |                                                                                           |           |                | NCL         | RDS: 288226.0 m E 6262279.0 m N MGA94 56<br>INATION: -90°<br>E DEPTH: 1.00 m                                                                                                                                                                                                                                                                                                | [<br>(<br> | DRILL<br>CONT<br>LOGO | T: 1 OF 1<br>RIG: Hand Auger<br>RACTOR: Golder Associates Pty Ltd<br>GED: MB DATE: 29/4/10<br>CKED: CSC DATE: 26/5/10 |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------|-----------|----------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| _                                                                                                                   |                                                                                                                                                                        |                             |                                                           |                              | 0                                                                                         |           |                |             |                                                                                                                                                                                                                                                                                                                                                                             |            |                       |                                                                                                                       |
| METHOD                                                                                                              | PENETRATION<br>RESISTANCE                                                                                                                                              |                             | DEPTH<br>(metres)                                         | DEPTH<br>RL                  | SAMPLE OR<br>FIELD TEST                                                                   | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | Field Material Desc                                                                                                                                                                                                                                                                                                                                                         |            | CONSISTENCY U         | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                                           |
| HA                                                                                                                  | M                                                                                                                                                                      | Groundwater Not Encountered | 0.0                                                       | 0.10<br>0.40<br>0.60<br>0.70 | BH16/1 0.10-0.20 m<br>R=1A<br>PID = 8.5 ppm<br>BH16.2 0.45-0.55 m<br>R1A<br>PID = 0.6 ppm |           |                |             | TOPSOIL: Gravelly SILT<br>low liquid limit, brown         FILL: CLAY<br>high plasticity, brown, inferred firm         FILL: SAND<br>fine to medium grained, orange brown         FILL: Silty CLAY<br>high plasticity, brown, with some gravel, inferred stiff         FILL: : as above becoming lighter in colour and higher clay<br>content, stiffer and higher plasticity | -          |                       | TOPSOIL<br>FILL<br>domestic rubbish (metal can ring glass)                                                            |
| 4 8.2.006                                                                                                           | м-н                                                                                                                                                                    |                             | -<br>-<br>-1.0                                            | 0.90                         | BH16/3 0.90-1.00 m<br>R=0A<br>PID = 0.9 ppm                                               |           |                |             | Silty CLAY<br>high plasticity, red brown, inferred stiff<br>END OF BOREHOLE @ 1.00 m<br>REACHED TARGET DEPTH<br>BACKFILLED                                                                                                                                                                                                                                                  | D - N      | 1                     | RESIDUAL SOIL                                                                                                         |
| GAP 8_05A LIB/GLB LOG GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ <<07am/ngFile>> 01/07/2010 16:34 8:2006 |                                                                                                                                                                        |                             | -<br>-<br>1.5<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br> |                              |                                                                                           |           |                |             |                                                                                                                                                                                                                                                                                                                                                                             |            |                       |                                                                                                                       |

| CI     | IENT                      |                             |                   |                   | er<br>ates<br>tructure                                       |           |                |                    |                                                                                                                                                  |          |                        | ET: 1 OF 1<br>L RIG: XC                         |
|--------|---------------------------|-----------------------------|-------------------|-------------------|--------------------------------------------------------------|-----------|----------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------|-------------------------------------------------|
|        | OJE                       |                             |                   |                   | ent Stage 3A                                                 |           | C              | :00                | RDS: 288182.0 m E 6262033.0 m N MGA94 56                                                                                                         |          |                        | TRACTOR: Terratest                              |
|        | CATI<br>B NC              |                             |                   | ith Nepe<br>22059 | ean Health Campus                                            |           |                |                    | NATION: -90°<br>E DEPTH: 2.75 m                                                                                                                  |          |                        | GED: BC DATE: 3/5/10<br>CKED: CSC DATE: 26/5/10 |
|        |                           | Dril                        |                   |                   | Sampling                                                     |           | •              |                    | Field Material Desc                                                                                                                              |          |                        |                                                 |
|        | Z                         |                             | ing               |                   | Camping                                                      | _         |                | Ъ                  |                                                                                                                                                  |          |                        |                                                 |
| MEIHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL       | SAMPLE OR<br>FIELD TEST                                      | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                   | MOISTURE | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS     |
| 2      | Н                         |                             | 0 —               | 0.11              |                                                              |           | 5 · 5 4        |                    | CONCRETE                                                                                                                                         |          |                        | CONCRETE                                        |
|        | M-H                       |                             | -                 | 0.40              | BHA-1 DS 0.11-0.20 m<br>R=0A<br>PID = 1.1 ppm                |           |                |                    | fine to coarse angular igneous aggregate     FILL: Sitty CLAY     high plasticity, red brown and grey, inferred residual soil placed     as fill | D - N    | /                      | FILL                                            |
|        |                           |                             | -                 | 0.80              | BHA-2 DS 0.50-0.60 m<br>R=0A<br>PID = 0.7 ppm                |           |                |                    | FILL: Sity CLAY<br>high plasticity, brown, with some fine to coarse sand, trace of<br>plastic, inferred stiff                                    |          |                        | V-bit refusal at 0.8m                           |
|        |                           | Itered                      | 1—                |                   | BHA-3 DS 0.90-1.00 m                                         |           | *   ×          |                    | Silty CLAY<br>high plasticity, grey with red brown staining                                                                                      | 1        |                        | RESIDUAL SOIL                                   |
|        |                           | Groundwater not encountered | -                 |                   | R=0A<br>PID = 0.6 ppm<br>SPT 1.00-1.45 m<br>5, 7, 11<br>N=18 |           | ×              |                    |                                                                                                                                                  |          |                        |                                                 |
|        | M-H                       | dwater n                    | -                 |                   | R=0A<br>BHA-5 DS 1.50-1.60 m<br>R=0A                         |           | ×              |                    |                                                                                                                                                  | D - N    | / VSt                  |                                                 |
|        |                           | Ground                      | -                 |                   | PID = 2.9 ppm                                                |           | ××             |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 2—                | 2.10              |                                                              |           | ×              |                    | SHALE                                                                                                                                            | -        | <u> </u>               | WEATHERED ROCK                                  |
|        | H-R                       |                             | -                 |                   |                                                              |           |                |                    | grey with red brown staining, laminated, extremely low strength,<br>extremely weathered                                                          |          |                        |                                                 |
|        |                           |                             | _                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        | TC bit refusal at 2.75m                         |
|        |                           |                             | 3—                |                   |                                                              |           |                |                    | END OF BOREHOLE @ 2.75 m<br>BACKFILLED<br>TC BIT REFUSAL                                                                                         |          |                        |                                                 |
|        |                           |                             | -<br>-            |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 4                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 5-                |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 6—                |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 7—                |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | =                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | -                 |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |
|        |                           |                             | 8—                |                   |                                                              |           |                |                    |                                                                                                                                                  |          |                        |                                                 |

|                                                                                                                                            |             |             |                 | G                    | olde                 | er<br>ates                                                                                     |           |                |             | REPORT                                                                                                                                                                                                                                                                                           |           |                        | OREHOLE: B                                                                            | НВ              |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-----------------|----------------------|----------------------|------------------------------------------------------------------------------------------------|-----------|----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------|---------------------------------------------------------------------------------------|-----------------|
| P                                                                                                                                          | PRO<br>00   | ENT<br>DJE( | :<br>CT:<br>ON: | Heal<br>Rede<br>Penr | th Infras<br>evelopm | tructure<br>lent Stage 3A<br>ean Health Campus                                                 |           | I              | NCL         | RDS: 288232.0 m E 6262052.0 m N MGA94 56<br>INATION: -90°<br>E DEPTH: 2.80 m                                                                                                                                                                                                                     | <br>(<br> | DRILI<br>CONT<br>LOGO  | T: 1 OF 1<br>. RIG: XC<br>RACTOR: Terratest<br>SED: BC DATE: 30<br>SKED: CSC DATE: 26 |                 |
|                                                                                                                                            |             |             | Dril            | ling                 |                      | Sampling                                                                                       |           |                |             | Field Material Desc                                                                                                                                                                                                                                                                              | riptic    | on                     |                                                                                       |                 |
| METHOD                                                                                                                                     | PENETRATION | RESISTANCE  | WATER           | DEPTH<br>(metres)    | DEPTH<br>RL          | SAMPLE OR<br>FIELD TEST                                                                        | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                   | MOISTURE  | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                           |                 |
| ADV DFC                                                                                                                                    | L           | <u>н</u>    |                 | 0<br><br><br>1       | 0.10                 | BHB-1 DS 0.50-0.60 m<br>R=0A<br>PID = 1.1 ppm<br>BHB-2 DS 0.90-1.00 m<br>R=0A<br>PID = 0.3 ppm |           |                |             | ASPHALT<br>fine to coarse, sub-angular, igneous aggregate, dark grey binder,<br>thin layer of gravel beneath<br>FILL: Clayey SAND<br>fine to coarse grained, sub-angular, low plasticity clay, with some<br>sub-rounded and sub-angular sandstone gravel, inferred medium<br>dense, dry to moist | D - N     | 1                      | ASPHALT<br>FILL                                                                       |                 |
|                                                                                                                                            |             | м           | Δ               | -<br>-<br>2—         | 2.10                 | BHB-3 DS 1.50-1.60 m<br>R=0A<br>PID = 0.4 ppm<br>BHB-4 DS 1.90-2.00 m<br>R=0A<br>PID = 0.9 ppm |           |                |             | FILL: Silty CLAY<br>high plasticity, brown and red brown, with some fine gravel and<br>sand, moist, becoming to wet near interface with shale                                                                                                                                                    | м         |                        | V-bit refusal at 2.1m                                                                 | -               |
| ADT                                                                                                                                        | H           | I-R         |                 | -                    |                      | SPT 2.00-2.44 m<br>4, 7, 20/140mm<br>N>27<br>R=0A                                              |           |                |             | SHALE<br>brown and red brown ironstaining, laminated at 0°, extremely low<br>strength grading to very low strength, extremely weathered                                                                                                                                                          | M -<br>W  |                        | Practical TC bit refusal at 2.8m                                                      |                 |
| GaP 8_05A LIB GLB Log GaP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL GPJ < <drawingfile>&gt;&gt; 01/07/2010 16:35 8.2.006</drawingfile> |             |             |                 | 3                    |                      |                                                                                                |           |                |             | n conjunction with accompanying notes and abbreviations.                                                                                                                                                                                                                                         |           |                        | e of the materials                                                                    |                 |
| GAP 8                                                                                                                                      |             |             |                 |                      | CIVI                 |                                                                                                |           |                |             | is such it should not be relied upon for geotechnical purpose                                                                                                                                                                                                                                    |           | ncall                  | GAP gINT                                                                              | FN. F01a<br>RL3 |

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|                               |      |              |                                  | G                         | olde<br>ocia                | er<br>ates                                                                                                                                    |           |                |                    | REPORT                                                                                                                                                                                                                                                                                                                      | 0        |             | BOREHOLE: BHC                               |                   |
|-------------------------------|------|--------------|----------------------------------|---------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|---------------------------------------------|-------------------|
|                               | CLII | ENT          | :                                | Heal                      | th Infras                   | structure                                                                                                                                     |           |                |                    |                                                                                                                                                                                                                                                                                                                             |          | DRIL        | L RIG: Geoprobe 66200DT                     |                   |
|                               |      | OJE(<br>CATI | CT:<br>ION:                      |                           | •                           | ent Stage 3A<br>ean Health Campus                                                                                                             |           |                |                    | RDS: 288284.0 m E 6262080.0 m N MGA94 56<br>NATION: -90°                                                                                                                                                                                                                                                                    |          |             | TRACTOR: Terratest<br>GED: TGC DATE: 3/5/10 |                   |
| L                             | JOE  | B NC         | ):                               |                           | 622059                      |                                                                                                                                               |           | ł              | HOLE               | DEPTH: 10.00 m                                                                                                                                                                                                                                                                                                              |          | CHE         | CKED: CSC DATE: 26/5/10                     |                   |
|                               |      |              | Dril                             | ling                      |                             | Sampling                                                                                                                                      |           |                | Γ.                 | Field Material Des                                                                                                                                                                                                                                                                                                          |          |             | 1                                           |                   |
| MFTLOD                        |      | PENEIRATION  | WATER                            | DEPTH<br>(metres)         | DEPTH<br>RL                 | SAMPLE OR<br>FIELD TEST                                                                                                                       | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                                                                                                                                                              | MOISTURE | CONSISTENCY |                                             |                   |
|                               |      | H-M H-M KES  | GROUND WATER NOT ENCOUNTERED WAT |                           | DEPTH<br>RL<br>0.10<br>1.00 | BHC-1 DS 0.30-0.50 m<br>R=0A<br>BHC-2 DS 0.90-1.00 m<br>R=0A<br>BHC-3 DS 1.40-1.50 m<br>R=0A<br>SPT 1.50-1.70 m<br>9, 30/50mm<br>N>30<br>R=0A |           |                | CH                 | ASPHALT FILL: Silty SAND fine to coarse grained, gap graded, sub-angular, with trace of clay, high plasticity, brown, trace of gravel, fine to medium grained, angular Silty CLAY high plasticity, brown with red and pale grey seams, trace of sand, fine to medium grained, sub-angular For Continuation Refer to Sheet 2 | D - 1    | M           | CARPARK       FILL       RESIDUAL SOIL      |                   |
| .IB.GLB Log GAP NON-CORED FUL |      |              |                                  | 7 —<br>-<br>-<br>-<br>8 — |                             |                                                                                                                                               |           |                |                    |                                                                                                                                                                                                                                                                                                                             |          |             |                                             | -                 |
| GAP 8_05A L                   |      |              |                                  |                           |                             | onmental purposes or                                                                                                                          | ٦ly,      | withou         | t atte             | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnica<br>s such it should not be relied upon for geotechnical purpos                                                                                                                                       | l sign   |             |                                             | )1a<br><u>113</u> |





## **REPORT OF CORE PHOTOGRAPHS: BHC**

| CLIENT:   | Health Infrastructure        |                                             |
|-----------|------------------------------|---------------------------------------------|
| PROJECT:  | Redevelopment Stage 3A       | COORDS: 288284.0 m E 6262080.0 m N MGA94 56 |
| LOCATION: | Penrith Nepean Health Campus | INCLINATION: -90°                           |
| JOB NO:   | 107622059                    | HOLE DEPTH: 10.00 m                         |

| SHEET: 1 OF 2          |               |
|------------------------|---------------|
| DRILL RIG: Geoprobe 66 | 200DT         |
| CONTRACTOR: Terrates   | t             |
| LOGGED: TGC            | DATE: 3/5/10  |
| CHECKED: CSC           | DATE: 26/5/10 |





Redevelopment Stage 3A

Penrith Nepean Health Campus

PROJECT:

JOB NO:

LOCATION:

### **REPORT OF CORE PHOTOGRAPHS: BHC**

| SHEET: 2 OF 2          |                                                               |                                                                           |
|------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------|
| DRILL RIG: Geoprobe 66 | 200DT                                                         |                                                                           |
| CONTRACTOR: Terrates   | t                                                             |                                                                           |
| LOGGED: TGC            | DATE:                                                         | 3/5/10                                                                    |
| CHECKED: CSC           | DATE:                                                         | 26/5/10                                                                   |
|                        | DRILL RIG: Geoprobe 66<br>CONTRACTOR: Terrates<br>LOGGED: TGC | DRILL RIG: Geoprobe 66200DT<br>CONTRACTOR: Terratest<br>LOGGED: TGC DATE: |



COORDS: 288284.0 m E 6262080.0 m N MGA94 56

INCLINATION: -90°

HOLE DEPTH: 10.00 m

| CI | IENT                      |                             |                   |                   | er<br>ates<br>tructure                                          |           |                |                    |                                                                                                                                                     |          |                        | :T: 1 OF 1<br>_ RIG: XC                                                                                |
|----|---------------------------|-----------------------------|-------------------|-------------------|-----------------------------------------------------------------|-----------|----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------|--------------------------------------------------------------------------------------------------------|
| PF | OJE                       | CT:                         | Rede              | evelopm           | ent Stage 3A                                                    |           | C              | 000                | RDS: 288256.0 m E 6262026.0 m N MGA94 56                                                                                                            | (        | CONT                   | RACTOR: Terratest                                                                                      |
|    | CAT<br>B NC               |                             |                   | ith Nepe<br>22059 | ean Health Campus                                               |           |                |                    | NATION: -90°<br>EDEPTH: 2.80 m                                                                                                                      |          |                        | GED:         BC         DATE:         3/5/10           CKED:         CSC         DATE:         26/5/10 |
|    |                           |                             | ling              |                   | Sampling                                                        |           |                |                    | Field Material Des                                                                                                                                  |          |                        |                                                                                                        |
|    | z                         |                             | iiriy             |                   | Sampling                                                        |           |                | Ы                  |                                                                                                                                                     |          |                        |                                                                                                        |
|    | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL       | SAMPLE OR<br>FIELD TEST                                         | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                      | MOISTURE | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                            |
|    | L                         |                             | 0                 | 0.30              | BHD-1 BDS<br>0.00-0.60 m<br>BHD-2 DS 0.10-0.20 m<br>R=0,A       |           |                |                    | FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, fine to coarse grained<br>sub-angular sand, high strength igneous gravel, with some clay |          |                        | FILL                                                                                                   |
|    | M-R                       |                             | -                 |                   | PID = 0.9 ppm<br>BHD-3 DS 0.50-0.60 m<br>R=0,A                  |           |                |                    | FILL: Silty CLAY<br>medium plasticity, brown, inferred stiff                                                                                        | D - N    | n                      |                                                                                                        |
|    |                           | ntered                      | -<br>1 —          | 0.80              | PID = 1 ppm<br>BHD-4 BDS<br>0.80-1.20 m<br>BHD-5 DS 0.90-1.00 m |           | ×              | СН                 | Silty CLAY<br>high plasticity, red brown with zones of grey                                                                                         |          |                        | RESIDUAL SOIL                                                                                          |
|    | М                         | not encoul                  | -                 |                   | R=0,A<br>PID = 1.3 ppm<br>SPT 1.00-1.45 m<br>4, 8, 13           |           |                |                    |                                                                                                                                                     | D - N    | 1 VSt                  |                                                                                                        |
|    | м-н                       | Groundwater not encountered | -                 | 1 0 0             | N=21<br>BHD-7 DS 1.50-1.60 m<br>R=0,A<br>PID = 2.5 ppm          |           | × ·            |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           | ъ                           | 2—                | 1.90              |                                                                 |           |                |                    | SHALE<br>brown with red ironstaining, extremely low strength, extremely<br>weathered                                                                |          |                        | WEATHERED ROCK                                                                                         |
|    | H-R                       |                             | -                 |                   | SPT 2.50-2.61 m                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | 3-                |                   | 20/110mm<br>(DB)<br>BHD-8                                       |           |                |                    | END OF BOREHOLE @ 2.80 m<br>TC BIT REFUSAL                                                                                                          | +        |                        | TC bit refusal at 2.8m                                                                                 |
|    |                           |                             |                   |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | 4 —               |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | 5                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | 6-                |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | 7 —               |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |
|    |                           |                             | -                 |                   |                                                                 |           |                |                    |                                                                                                                                                     |          |                        |                                                                                                        |

|   | IENT                      | :                           | Heal              | th Infras         | tructure<br>ent Stage 3A                                                                      |           | C              | 000                | RDS: 288248.0 m E 6261991.0 m N MGA94 56                                                                                                                                      | I        | DRILI                  | T: 1 OF 1<br>. RIG: XC<br>'RACTOR: Terratest                                                        |
|---|---------------------------|-----------------------------|-------------------|-------------------|-----------------------------------------------------------------------------------------------|-----------|----------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------|-----------------------------------------------------------------------------------------------------|
|   | OCAT                      |                             |                   | ith Nepe<br>22059 | ean Health Campus                                                                             |           |                |                    | NATION: -90°<br>E DEPTH: 1.70 m                                                                                                                                               |          |                        | GED:         BC         DATE:         3/5/1           CKED:         CSC         DATE:         26/5/ |
| _ |                           | Dril                        | ling              |                   | Sampling                                                                                      |           |                |                    | Field Material Desc                                                                                                                                                           |          |                        |                                                                                                     |
|   | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL       | SAMPLE OR<br>FIELD TEST                                                                       | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                | MOISTURE | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                         |
|   | H<br>M-H                  | countered                   | 0                 | 0.60              | BHE-1 DS 0.10-0.20 m<br>R=0A<br>PID = 0.4 ppm<br>BHE-2 DS 0.50-0.60 m<br>R=0.A                |           |                |                    | ASPHALT<br>fine to coarse, sub-angular igneous aggregate, weak binder<br>FILL: Sandy GRAVEL<br>fine to coarse grained, sub-angular, dark grey, fine to coarse<br>grained sand |          |                        | ASPHALT<br>FILL/ROAD BASE                                                                           |
|   | м                         | Groundwater not encountered | -<br>1            | 1.10              | PID = 0.1 ppm<br>BHE-3 DS 0.90-1.00 m<br>R=0,A<br>PID = 0.6 ppm<br>SPT 1.00-1.45 m<br>2, 3, 4 |           | ×              |                    | Sitty CLAY<br>high plasticity, red brown and grey<br>grading to grey                                                                                                          | _D - N   | / St                   | RESIDUAL SOIL                                                                                       |
|   | H                         | U                           | -                 | 1.50              | N=7<br>R=0A<br>BHE-5 DS 1.50-1.60 m<br>R=0,A<br>PID = 0.9 ppm                                 |           |                |                    | SHALE<br>brown to red brown, extremely low strength, extremely weathered<br>END OF BOREHOLE @ 1.70 m<br>REFUSAL ON SHALE                                                      |          |                        | WEATHERED ROCK<br>TC-Bit refusal @ 1.7m                                                             |
|   |                           |                             | 2                 |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | 3                 |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | -<br>-<br>4       |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | -                 |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | 5                 |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | -<br>-<br>6       |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | -<br>-<br>7—      |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             | -                 |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |
|   |                           |                             |                   |                   |                                                                                               |           |                |                    |                                                                                                                                                                               |          |                        |                                                                                                     |

|                                                                                                                                       |             |                             |                 | Go                                                                                               | olde<br>ocia | er<br>ates                                                                                                                                  |           |                |             | REPORT                                                                                                                        |          |                                   | BOREHOLE: BHF                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------|-----------------|--------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------|-------------------------------------------------------------------------------------|
| F                                                                                                                                     | PRC<br>0C   | ENT<br>DJE(<br>CATI<br>3 NC | :<br>CT:<br>ON: | Heal<br>Rede<br>Penr                                                                             | th Infras    | structure<br>nent Stage 3A<br>ean Health Campus                                                                                             |           | I              | NCLI        | RDS: 288217.0 m E 6261988.0 m N MGA94 56<br>NATION: -90°<br>E DEPTH: 7.50 m                                                   |          | DRILI<br>CON <sup>-</sup><br>LOG( | L RIG: XC<br>TRACTOR: Terratest<br>GED: BC DATE: 30/4/10<br>CKED: CSC DATE: 26/5/10 |
|                                                                                                                                       |             |                             | Dril            | ling                                                                                             |              | Sampling                                                                                                                                    |           |                |             | Field Material Desc                                                                                                           | riptio   | on                                |                                                                                     |
| METHOD                                                                                                                                | DENETDATION | RESISTANCE                  | WATER           | DEPTH<br>(metres)                                                                                | DEPTH<br>RL  | SAMPLE OR<br>FIELD TEST                                                                                                                     | RECOVERED | GRAPHIC<br>LOG | USCS SYMBOL | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                | MOISTURE | CONSISTENCY<br>DENSITY            | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                         |
| ADV                                                                                                                                   | n N         | и-н                         |                 | 0                                                                                                | 0.90         | BDS 0.00-0.60 m<br>BHF-1 DS 0.10-0.20 m<br>R=0,A<br>PID = 0.7 ppm<br>BHF-2 DS 0.50-0.60 m<br>R=0,A<br>PID = 0.5 ppm<br>BHF-3 DS 0.90-1.00 m |           | ×              | СН          | FILL: Silty CLAY<br>high plasticity, pale brown, with some fine sand, high silt content,<br>dry, inferred stiff<br>Silty CLAY | D        |                                   | FILL                                                                                |
|                                                                                                                                       |             | и-н                         |                 | 1—<br>-<br>-<br>2—                                                                               | 2.10         | PID = 0.6 ppm<br>SPT 1.00-1.45 m<br>3, 4, 4<br>N=8<br>BHF-5 DS 1.50-1.60 m<br>R=0,A<br>PID = 0.2 ppm                                        |           |                |             | high plasticity, red brown, with zones of grey, evidence of<br>laminates/bedding from retict rock structure                   | м        | St                                |                                                                                     |
| ADT                                                                                                                                   |             | н                           | 13/05/10        | -<br>-<br>3<br>-<br>-                                                                            |              | SPT 2.50-2.65 m<br>20/150mm<br>N=R<br>starting to db                                                                                        |           |                |             | SHALE<br>brown with red ironstaining, extremely low strength, extremely<br>weathered, laminated at o'                         |          |                                   | TC bit refusal at 3.5m                                                              |
| GAP 8_05A LIB.GLB Log GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ < <drawingfile>&gt; 01/07/2010 16:36 8.2006</drawingfile> |             |                             |                 | -<br>4<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |              |                                                                                                                                             |           |                |             | For Continuation Refer to Sheet 2                                                                                             |          |                                   |                                                                                     |
| GAP 8_05                                                                                                                              |             |                             |                 |                                                                                                  |              | onmental purposes on                                                                                                                        | ıly, '    | without        | t atte      | in the consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose   | signi    |                                   |                                                                                     |



| Golder                                                                                                                                                                 |                                                                                        | R                                        | EPORT OF CORE P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HOTOGRAP                                                                          | HS: BHF                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------|
| CLIENT:       Health Infrastructure         PROJECT:       Redevelopment Stage 3A         LOCATION:       Penrith Nepean Health Campus         JOB NO:       107622059 | COORDS: 288217.0 m E 6261988.0 m N MGA94 56<br>INCLINATION: -90°<br>HOLE DEPTH: 7.50 m |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | SHEET: 1 OF 1<br>DRILL RIG: XC<br>CONTRACTOR: Terra<br>LOGGED: BC<br>CHECKED: CSC | test<br>DATE: 30/4/10<br>DATE: 26/5/10 |
| 107<br>BHF<br>35-<br>Box<br>301<br>BC                                                                                                                                  |                                                                                        |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                        |
| .107622059 Nepean 1                                                                                                                                                    | Hospital Stage 3a BHF m                                                                | And the second second                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                        |
| 4 6 1 1                                                                                                                                                                | essi miana da Mana un                                                                  | ALT                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                        |
| 567                                                                                                                                                                    |                                                                                        | EOH@75m                                  | A Distance of the second secon | h.                                                                                |                                        |
|                                                                                                                                                                        | This report of core photographs must be read in conjuncti                              | with accompanying notos and abbroviation | a It has been propored for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   |                                        |

This report of core photographs must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes

|                                                                                                                                        | Ę           |              |                             | G                 | olde                 | er<br>ates                                                                     |           |                |                    | REPORT                                                                                                                                                                                  |          |             | BOREHOLE: BHG                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-----------------------------|-------------------|----------------------|--------------------------------------------------------------------------------|-----------|----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|-----------------------------------------------------------------------|
| F                                                                                                                                      | CLIE<br>PRO | ENT:<br>DJEC | :<br>CT:                    | Heal<br>Rede      | th Infras<br>evelopm | structure<br>lent Stage 3A<br>ean Health Campus                                |           |                |                    | RDS: 288349.0 m E 62620507.0 m N MGA94 56<br>NATION: -90°                                                                                                                               |          | DRIL<br>CON | ET: 1 OF 1<br>L RIG: XC<br>TRACTOR: Terratest<br>GED: BC DATE: 3/5/10 |
| Ļ                                                                                                                                      | JOB         | NO           | ):                          | 1076              | 22059                |                                                                                |           | ŀ              | IOLE               | DEPTH: 2.00 m                                                                                                                                                                           |          | CHE         | CKED: CSC DATE: 26/5/10                                               |
|                                                                                                                                        |             |              | Dril                        | ling              |                      | Sampling                                                                       |           |                |                    | Field Material Desc                                                                                                                                                                     |          |             |                                                                       |
| МЕТНОП                                                                                                                                 | PENETRATION | RESISTANCE   | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL          | SAMPLE OR<br>FIELD TEST                                                        | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                          | MOISTURE | CONSISTENCY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                           |
| Fd∆                                                                                                                                    |             | H<br>1-H     |                             | 0                 |                      | BH5-1 DS 0.10-0.20 m                                                           |           |                |                    | BITUMEN<br>fine to coarse sub-angular aggregate                                                                                                                                         | D        |             | BITUMEN<br>ROAD BASE                                                  |
|                                                                                                                                        |             |              |                             | _                 | 0.30                 | R=0,A<br>PID = 0.4 ppm                                                         |           |                |                    | Road Base: Sandy GRAVEL<br>dark grey, fine to coarse sub-angular sand, fine to coarse                                                                                                   | ·<br>    | -           | FILL .                                                                |
|                                                                                                                                        | M           | 1-R          | ntered                      | -                 | 0.70                 | BH5-2 DS 0.50-0.60 m<br>R=0,A                                                  |           |                |                    | sub-angular igneous gravel<br>FILL: Sandy CLAY                                                                                                                                          | /  D     |             | -                                                                     |
|                                                                                                                                        |             | м            | encou                       | -                 |                      | PID = 0.5 ppm                                                                  |           | ×              | СН                 | high plasticity, dark grey, inferred firm to stiff<br>Silty CLAY<br>medium to high plasticity, grey with red ironstaining                                                               | Γ        |             | RESIDUAL SOIL                                                         |
| ADT                                                                                                                                    |             | 1-H          | Groundwater not encountered | 1—                | 1.30                 | BH5-3 DS 0.90-1.00 m<br>R=0,A<br>PID = 0.5 ppm<br>SPT 1.00-1.45 m<br>6, 14, 18 | -         | × - ×          |                    | SHALE                                                                                                                                                                                   | D - I    | vi vst      |                                                                       |
|                                                                                                                                        |             | I-R          | Grou                        | -                 |                      | N=32<br>BDS 1.00-1.20 m                                                        |           |                |                    | grey with red ironstaining,<br>laminated, bedding at 0°, extremely low strength, extremely<br>weathered                                                                                 |          |             |                                                                       |
|                                                                                                                                        |             |              |                             | 2                 |                      |                                                                                |           |                |                    | END OF BOREHOLE @ 2.00 m                                                                                                                                                                | -        | -           | TC-bit refusal at 2.0m                                                |
|                                                                                                                                        |             |              |                             |                   |                      |                                                                                |           |                |                    | REACHED TARGET DËPTH/TC BIT REFUSAL<br>BACKFILLED                                                                                                                                       |          |             |                                                                       |
|                                                                                                                                        |             |              |                             | -                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| 37 8.2.006                                                                                                                             |             |              |                             | 4                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| >> 01/07/2010 16                                                                                                                       |             |              |                             | -                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| < <drawingfile></drawingfile>                                                                                                          |             |              |                             | 5                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| HOSPITAL.GP                                                                                                                            |             |              |                             | -                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             |                                                                       |
| GAP 8_05A LIB.GLB Log GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ < <drawingfile>&gt; 01/07/2010 16:37 8.2.006</drawingfile> |             |              |                             | 6—                |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| ED FULL PAGE 1                                                                                                                         |             |              |                             | -<br>-<br>7       |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             | -                                                                     |
| GAP NON-COR                                                                                                                            |             |              |                             | -                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             |                                                                       |
| -IB.GLB Log                                                                                                                            |             |              |                             | 8                 |                      |                                                                                |           |                |                    |                                                                                                                                                                                         |          |             |                                                                       |
| GAP 8_05A1                                                                                                                             |             |              |                             |                   |                      | onmental purposes on                                                           | ly, ۱     | without        | atte               | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose | sign     |             |                                                                       |

| (                                                                                                                                                    |        |                           |                             | G                 | olde        | er<br>ates                                                        |           |                |                    | REPORT                                                                                                                                                                                  |          |                        | BOREHOLE: BHH                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|-----------------------------|-------------------|-------------|-------------------------------------------------------------------|-----------|----------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------|---------------------------------------------|
|                                                                                                                                                      | CLI    | ENT                       |                             |                   |             | structure                                                         |           |                |                    |                                                                                                                                                                                         |          |                        | ET: 1 OF 1<br>L RIG: XC                     |
|                                                                                                                                                      |        | OJE                       | CT:<br>ION:                 |                   |             | nent Stage 3A<br>ean Health Campus                                |           |                |                    | RDS:288369.0 m E 6262071.0 m N MGA94 56<br>NATION:-90°                                                                                                                                  |          |                        | TRACTOR: Terratest<br>GED: BC DATE: 3/5/10  |
|                                                                                                                                                      |        | B NC                      |                             |                   | 622059      | campus                                                            |           |                |                    | E DEPTH: 1.60 m                                                                                                                                                                         |          |                        | CKED: CSC DATE: 26/5/10                     |
|                                                                                                                                                      |        |                           | Dri                         | lling             | 1           | Sampling                                                          |           |                |                    | Field Material Desc                                                                                                                                                                     |          |                        | 1                                           |
|                                                                                                                                                      | METHOD | PENETRATION<br>RESISTANCE | WATER                       | DEPTH<br>(metres) | DEPTH<br>RL | SAMPLE OR<br>FIELD TEST                                           | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                                                          | MOISTURE | CONSISTENCY<br>DENSITY | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS |
|                                                                                                                                                      | ADT    | н                         |                             | 0-                |             | BHH-1 DS 0.10-0.20 m                                              |           |                |                    | BITUMEN<br>fine to coarse sub-angular igneous gravel aggremate, dark grey                                                                                                               | D        |                        | BITUMEN<br>ROAD BASE                        |
|                                                                                                                                                      |        | м-н                       | countered                   | -                 | 0.30        | R=0,A<br>PID = 0.4 ppm<br>BHH-2 DS 0.50-0.60 m                    |           |                |                    | Road Base: Sandy GRAVEL<br>fine to coarse sub-angular igneous very high strength gravel,<br>grey, fine to coarse grained sub-angular sand<br>FILL: Sity CLAY                            | D        |                        | FILL .                                      |
|                                                                                                                                                      |        |                           | not en                      | -                 | 0.80        | R=0,A<br>PID = 0.4 ppm                                            |           |                |                    | high plasticity, red brown, trace fine to coarse sub-angular<br>igneous gravel, inferred stiff clay                                                                                     | _        |                        | v-bit refusal at 0.8m                       |
|                                                                                                                                                      | ADT    | M-H                       | Groundwater not encountered | 1                 | 1.30        | BHH-3 DS 0.90-1.00 m<br>R=0,A<br>PID = 0.5 ppm<br>SPT 1.00-1.45 m |           | ~×<br>×<br>×   |                    | Sitty CLAY<br>high plasticity, grey and red brown ironstaining                                                                                                                          | D - N    | 1 VSt                  | -                                           |
|                                                                                                                                                      |        | н                         | 0                           | -                 |             | 4, 7, 16<br>N=23                                                  |           |                |                    | SHALE<br>grey with red ironstaining, laminated bedding at 0°, extremely low                                                                                                             |          |                        | WEATHERED ROCK                              |
|                                                                                                                                                      |        |                           |                             | 2-                |             | BHH-5 DS 1.50-1.60 m<br>R=0,A<br>PID = 0.7 ppm                    |           |                |                    | Strength, extremely weathered, grey with red ironstaining<br>END OF BOREHOLE @ 1.60 m<br>REACHED TARGET DEPTH<br>TC BIT REFUSAL<br>BACKFILLED                                           |          |                        | TC bit refusal at 1.6m                      |
|                                                                                                                                                      |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
|                                                                                                                                                      |        |                           |                             | -<br>3—           |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
|                                                                                                                                                      |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| 8.2.006                                                                                                                                              |        |                           |                             | -<br>4            |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| /07/2010 16:37                                                                                                                                       |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        |                                             |
| ngFile>> 01                                                                                                                                          |        |                           |                             | -<br>5            |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| sPJ < <drawi< td=""><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></drawi<> |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| HOSPITAL.0                                                                                                                                           |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| 9_NEPEAN                                                                                                                                             |        |                           |                             | 6                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| AGE 10762205                                                                                                                                         |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| GAP 8_05A LB.GLB Log GAP NON-CORED FULL PAGE 107622059_NEPEAN HOSPITAL.GPJ < <drawingfile>&gt; 01/07/2010 18:37 8/2006</drawingfile>                 |        |                           |                             | 7                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        | -                                           |
| 3 GAP NON-C                                                                                                                                          |        |                           |                             | -                 |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        |                                             |
| LIB.GLB Log                                                                                                                                          |        |                           |                             | -<br>8—           |             |                                                                   |           |                |                    |                                                                                                                                                                                         |          |                        |                                             |
| GAP 8_05A                                                                                                                                            |        |                           |                             |                   |             | onmental purposes or                                              | ıly, '    | without        | atte               | n conjunction with accompanying notes and abbreviations.<br>mpt to consider geotechnical properties or the geotechnical<br>s such it should not be relied upon for geotechnical purpose | signit   |                        |                                             |

| PR<br>LO | IENT<br>ROJE<br>DCAT      | :CT:<br>'ION:<br>D: | Red<br>Pen<br>1076 | evelopm     | structure<br>nent Stage 3A<br>ean Health Campus           |           | 11             | NCLI               | RDS: 288235.0 m E 6262268.0 m N MGA94 56<br>INATION: -90°<br>E DEPTH: 11.15 m                                                                            |          | DRILI<br>CON <sup>-</sup><br>LOG(<br>CHE( | ET: 1 OF 3<br>L RIG: EXplorer<br>IRACTOR: Terratest<br>GED: BC DATE: 29/4/10<br>CKED: CSC DATE: 26/5/10 |
|----------|---------------------------|---------------------|--------------------|-------------|-----------------------------------------------------------|-----------|----------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------|---------------------------------------------------------------------------------------------------------|
|          | z                         | -                   | lling              |             | Sampling                                                  |           |                | Ч                  | Field Material Dese                                                                                                                                      | <u> </u> |                                           |                                                                                                         |
|          | PENETRATION<br>RESISTANCE | WATER               | DEPTH<br>(metres)  | DEPTH<br>RL | SAMPLE OR<br>FIELD TEST                                   | RECOVERED | GRAPHIC<br>LOG | <b>USCS SYMBOL</b> | SOIL/ROCK MATERIAL DESCRIPTION                                                                                                                           | MOISTURE | CONSISTENCY<br>DENSITY                    | STRUCTURE AND<br>ADDITIONAL<br>OBSERVATIONS                                                             |
| 2        | H<br>H                    |                     | 0-                 |             |                                                           |           |                |                    | ASPHALT<br>fine - coarse subangular igneass gravel aggregate, dark grey<br>binder                                                                        |          |                                           | ASPHALT                                                                                                 |
|          | L-M                       |                     | -                  | 0.80        | BHI-1 DS 0.50-0.60 m<br>R=0,A<br>PID = 0.4 ppm            |           |                |                    | FILL: Gravelly SAND<br>fine - coarse grained, sub-angular, dark grey, fine to coarse,<br>sub-angular, very high strength, igneous gravel, with some silt | D        |                                           |                                                                                                         |
|          |                           |                     | 1-                 | 0.00        | BHI-2 DS 0.90-1.00 m<br>R=0,A<br>PID = 0.3 ppm            |           | ×              | CH                 | Silty CLAY<br>high plasticity, red brown, with zones of grey                                                                                             |          |                                           | RESIDUAL                                                                                                |
|          | м                         |                     | -                  | -           | SPT 1.00-1.45 m<br>2, 3, 5<br>N=8<br>BHI-4 DS 1.50-1.60 m |           | <br><br>       |                    |                                                                                                                                                          | м        | St                                        |                                                                                                         |
|          |                           |                     | 2-                 | 2.00        | R=0,A<br>PID = 0.1 ppm                                    |           | ×<br>×         |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     |                    | _           |                                                           |           | ××<br>×<br>,   |                    | zones of iron red iron cemanted clay                                                                                                                     |          |                                           |                                                                                                         |
|          | м-н                       |                     | -                  | -           | SPT 2.50-2.95 m<br>6, 6, 9<br>N=15                        |           | ×<br>×<br>×    |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           | 13/05/10            | 3-                 |             | PP=300-400Kpa                                             |           | *<br>          |                    |                                                                                                                                                          | D - N    | / VSt                                     |                                                                                                         |
|          |                           |                     | -                  | _           |                                                           |           | ××<br>×<br>    |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          | н                         |                     | -                  | 4.00        |                                                           |           | ×<br>          |                    |                                                                                                                                                          |          |                                           | V-bit refusal at 4.0m                                                                                   |
|          |                           |                     | -                  |             | SPT 4.00-4.25 m<br>16, 30/100mm<br>N>30                   |           |                |                    | SHALE<br>brown, extremely low strength, extremely weathered                                                                                              |          |                                           | Weathered ROCK                                                                                          |
|          | м-н                       |                     | -                  | _           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | 5                  | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | -                  | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           | practical TC-bit refusal at 5.5m, pushed to 6.6m to allow for better setup of coring                    |
|          | н                         |                     | 6-                 | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | -                  | _           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | -                  | _           |                                                           |           |                |                    | For Continuation Refer to Sheet 2                                                                                                                        | +        |                                           |                                                                                                         |
|          |                           |                     | 7                  | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | -                  | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |
|          |                           |                     | -                  | -           |                                                           |           |                |                    |                                                                                                                                                          |          |                                           |                                                                                                         |



| ENT: Health In<br>DJECT: Redevelo | epean Health Campus                                 | COORDS: 288235.0 m E 6262268.0 m<br>INCLINATION: -90°<br>HOLE DEPTH: 11.15 m | N MGA94 56            |      |          | SHEET: 1 OF 1<br>DRILL RIG: EXplorer<br>CONTRACTOR: Terra<br>LOGGED: BC<br>CHECKED: CSC | atest<br>DATE: 29/4/<br>DATE: 26/5/ |
|-----------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------|-----------------------|------|----------|-----------------------------------------------------------------------------------------|-------------------------------------|
|                                   | 1076220<br>BHI<br>66-11-15<br>Box1<br>29/9/10<br>BC | 559                                                                          |                       |      |          |                                                                                         | いたろうのので                             |
| 11.0                              |                                                     | 107622058 Nepean                                                             | Hospital Stage 3A BHI | 6.60 |          |                                                                                         |                                     |
| 7                                 |                                                     | - Andrew                                                                     | LLL                   | TRUE | Netice . | CORE LO                                                                                 | 55/,                                |
| 8                                 | CORE LOSS                                           | 8.30                                                                         | R Campia              | 1    |          |                                                                                         |                                     |
| 9                                 |                                                     |                                                                              |                       | 1    |          | he                                                                                      |                                     |
| 10                                |                                                     |                                                                              |                       |      |          | and the                                                                                 |                                     |
|                                   | 000)                                                |                                                                              |                       |      |          |                                                                                         |                                     |

This report of core photographs must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes









#### SAMPLE CHAIN OF CUSTODY DOCUMENTATION

|                                                                      | 10762205<br>Napean F<br>MB<br>24hrs   <br>36hrs   <br>HARD    FAX   <br>PDF | 48hrs []<br>5 Days []                 | Stand<br>Date Requ<br>EMAIL |                | ELS<br>4588<br>BULLETIN BOARD    |               |                    | 124 Paci | ffe Highv<br>Manage<br>ntact :         | vev. Gree                                            | <u>Ralph</u><br>Ben C                            |                                           | <u>(ni</u><br><u>aa</u>          | a                               |              |                 | 'ax     |                 | 78 3901                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | L       | <u>Emaî</u> :         | bcar |                                    | older<br>sociat                                                                                                | tes<br>golde | r.Com.ar     |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------|-----------------------------|----------------|----------------------------------|---------------|--------------------|----------|----------------------------------------|------------------------------------------------------|--------------------------------------------------|-------------------------------------------|----------------------------------|---------------------------------|--------------|-----------------|---------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------|------|------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------|--------------|
| Cammeuts/Special Instr<br>Please p<br>linits<br>-# PLeas<br>LAB<br>D | netions:<br>newide fests to<br>re Send resu<br>SAMPLE<br>ID                 | s kanala<br>Urs La<br>SAMPLE<br>DEPTH | Ian Ma<br>Sample<br>DATE    | SAMPLE<br>TYPE | Radjoh E Bel<br>Sample<br>MATRIX | No CONTAINERS | (Low/High/Unknown) | łł       | Metak (As, Cd, Cr, Cu, Pb, Ni, Zu, Hg) | Cs-C34 Total Petroleum Hydrocarbons<br>(TPH)         | Benzene, Tolvene, Ethylhenzene, Xylene<br>(BTEX) | Polycyclic Aromatic Hydrocardons<br>(PAH) | Organochilarine Pesticides (OCP) | Polychkorinated biphenyls (PCB) | TCLP for PAH | TCLP for Metals | Cyanide | Phenois (total) | Electrical conductivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sulfide | Chloride              |      |                                    |                                                                                                                |              |              |
|                                                                      | MW 102<br>BH C<br>BH F<br>BH I<br>DUPA                                      |                                       | 13/5/10<br>11<br>11<br>11   |                | water<br>vi<br>ii<br>ii          | 5555          |                    |          |                                        |                                                      |                                                  |                                           |                                  |                                 |              |                 |         |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |                       |      | Job<br>Date<br>Time<br>Tem<br>Gool | No:U                                                                                                           | 013          | 5.10<br>Onvs |
| SAMPLE MATRIX = So<br>RELEASED BY<br>RECEIVED BY                     | il/Sediment/Fill/Water/Other<br>SIGNATURE                                   |                                       | COMP                        | ANY            | E - Composite(C)/Disc<br>DATE    | TIME          |                    | RELEA:   | SED BY                                 |                                                      | S) H<br>Signati                                  | IGH COM                                   | NCENT                            | TRATIC                          | _            | OMPAN           |         |                 | nalysis li<br>DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | _       | TIME                  |      | Meth<br>Shipping                   | hod of Shig<br>7 Ref:                                                                                          | oment        |              |
| RELEASED BY<br>RECEIVED BY<br>RELEASED BY<br>RECEIVED BY             |                                                                             |                                       |                             |                |                                  |               |                    |          |                                        | 1 <sup>11</sup> a 4 <sup>1</sup> m - <sup>1</sup> Ku |                                                  |                                           | t.<br>Geboor was a second of     |                                 | -<br>        |                 |         |                 | n in the second s |         | 1<br>1<br>1<br>1<br>1 |      |                                    | and a second |              |              |

#### THIS FORM IS TO BE SIGNED BY GOLDER STAFF; COURIER/S; LABORATORY ON RECEIPT OF SAMPLES.

Golder Form No. GA\_SNA+ Revision 0 - Date: 25/11/04

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Sheet...l... of.......



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

# **CERTIFICATE OF ANALYSIS 40662-A**

**Client: Golder Associates** 124 Pacific Highway St Leonards NSW 2065

Attention: Jonathon Hilliard

#### Sample log in details:

Your Reference: No. of samples: Date samples received: Date completed instructions received:

#### 107622059, Penrith

Additional Testing on 3 Soils 05/05/10 18/05/10

#### **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: 25/05/10 Date of Preliminary Report: Not issued Issue Date: 24/05/10 NATA accreditation number 2901. This document shall not be reproduced except in full. This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with \*.

**Results Approved By:** 

Kluign Morgen

Rhian Morgan Metals Supervisor

Envirolab Reference: **Revision No:** R 00

40662-A



| Metals in TCLP USEPA1311              |          |            |            |            |
|---------------------------------------|----------|------------|------------|------------|
| Our Reference:                        | UNITS    | 40662-A-17 | 40662-A-31 | 40662-A-39 |
| Your Reference                        |          | BHD-2      | BHG-2      | BHI-1      |
| Depth                                 |          | 0.5-0.6    | 0.5-0.6    | 0.5-0.6    |
| Date Sampled                          |          | 3/05/2010  | 3/05/2010  | 29/04/2010 |
| Type of sample                        |          | Soil       | Soil       | Soil       |
| Date extracted                        | -        | 19/05/10   | 19/5/10    | 19/5/10    |
| Date analysed                         | -        | 20/05/10   | 20/05/10   | 20/05/10   |
| pH of soil for fluid# determ.         | pH units | 9.60       | 9.60       | 9.60       |
| pH of soil for fluid # determ. (acid) | pH units | 1.60       | 1.60       | 1.50       |
| Extraction fluid used                 | -        | 1          | 1          | 1          |
| pH of final Leachate                  | pH units | 5.10       | 5.10       | 5.00       |
| Arsenic in TCLP                       | mg/L     | <0.05      | <0.05      | <0.05      |
| Cadmium in TCLP                       | mg/L     | <0.01      | <0.01      | <0.01      |
| Chromium in TCLP                      | mg/L     | <0.01      | <0.01      | <0.01      |
| Copper in TCLP                        | mg/L     | 0.05       | 0.07       | 0.07       |
| Lead in TCLP                          | mg/L     | <0.03      | <0.03      | <0.03      |
| Mercury in TCLP                       | mg/L     | <0.0005    | <0.0005    | <0.0005    |
| Nickel in TCLP                        | mg/L     | 0.05       | 0.05       | 0.2        |
| Zinc in TCLP                          | mg/L     | 0.7        | 0.6        | 0.7        |

Envirolab Reference: 4 Revision No: F

40662-A R 00



| Method ID            | Methodology Summary                                                                  |
|----------------------|--------------------------------------------------------------------------------------|
| LAB.4                | Toxicity Characteristic Leaching Procedure (TCLP).                                   |
| EXTRACT.7            | Toxicity Characteristic Leaching Procedure (TCLP).                                   |
| LAB.1                | pH - Measured using pH meter and electrode in accordance with APHA 20th ED, 4500-H+. |
| Metals.20<br>ICP-AES | Determination of various metals by ICP-AES.                                          |
| Metals.21<br>CV-AAS  | Determination of Mercury by Cold Vapour AAS.                                         |

40662-A R 00



| QUALITY CONTROL             | UNITS | PQL    | METHOD               | Blank        | Duplicate Sm#    | Duplicate results         | Spike Sm#        | Spike %<br>Recovery |
|-----------------------------|-------|--------|----------------------|--------------|------------------|---------------------------|------------------|---------------------|
| Metals in TCLP<br>USEPA1311 |       |        |                      |              |                  | Base II Duplicate II %RPD |                  |                     |
| Date extracted              | -     |        |                      | 19/05/1<br>0 | 40662-A-17       | 19/05/10    19/05/10      | 40662-A-39       | 19/05/10            |
| Date analysed               | -     |        |                      | 20/05/1<br>0 | 40662-A-17       | 20/05/10    20/05/10      | 40662-A-39       | 20/05/10            |
| Arsenic in TCLP             | mg/L  | 0.05   | Metals.20<br>ICP-AES | <0.05        | 40662-A-17       | <0.05    <0.05            | 40662-A-39       | 107%                |
| Cadmium in TCLP             | mg/L  | 0.01   | Metals.20<br>ICP-AES | <0.01        | 40662-A-17       | <0.01    <0.01            | 40662-A-39       | 109%                |
| Chromium in TCLP            | mg/L  | 0.01   | Metals.20<br>ICP-AES | <0.01        | 40662-A-17       | <0.01    <0.01            | 40662-A-39       | 113%                |
| Copper in TCLP              | mg/L  | 0.01   | Metals.20<br>ICP-AES | <0.01        | 40662-A-17       | 0.05    0.05    RPD: 0    | 40662-A-39       | 118%                |
| Lead in TCLP                | mg/L  | 0.03   | Metals.20<br>ICP-AES | <0.03        | 40662-A-17       | <0.03    <0.03            | 40662-A-39       | 109%                |
| Mercury in TCLP             | mg/L  | 0.0005 | Metals.21<br>CV-AAS  | <0.000<br>5  | 40662-A-17       | <0.0005    <0.0005        | 40662-A-39       | 82%                 |
| Nickel in TCLP              | mg/L  | 0.02   | Metals.20<br>ICP-AES | <0.02        | 40662-A-17       | 0.05    0.05    RPD: 0    | 40662-A-39       | 112%                |
| Zinc in TCLP                | mg/L  | 0.02   | Metals.20<br>ICP-AES | <0.02        | 40662-A-17       | 0.7    0.7    RPD: 0      | 40662-A-39       | 117%                |
| QUALITY CONTROL             |       | S I    | Dup. Sm#             |              | Duplicate        | Spike Sm#                 | Spike % Recovery |                     |
| Metals in TCLP USEPA131     | 1     |        | •                    |              | Duplicate + %RPD |                           |                  |                     |
| Date extracted              | -     |        | [NT]                 |              | [NT]             | 40662-A-39                | 19/05/10         |                     |
| Date analysed               | -     |        | [NT]                 |              | [NT]             | 40662-A-39                | 20/05/10         |                     |
| Arsenic in TCLP             | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 121%             |                     |
| Cadmium in TCLP             | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 107%             |                     |
| Chromium in TCLP            | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 114%             |                     |
| Copper in TCLP              | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 117%             |                     |
| Lead in TCLP                | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 109%             |                     |
| Mercury in TCLP             | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 101%             |                     |
| Nickel in TCLP              | mg/L  | -      | [NT]                 |              | [NT]             | 40662-A-39                | 110%             |                     |
| Zinc in TCLP                | mg/L  | .      | [NT]                 |              | [NT]             | 40662-A-39                | 114%             |                     |

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#### Report Comments:

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

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

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

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# Aileen Hie

Subject: FW: Additional Analyses - 3 samples from COA 40662 Sent: From: <u>.</u> Tuesday, 18 May 2010 09:05 AM Aileen Hie Jacinta Hurst

# Regards,

Jacinta Hurst Envirolab Services Pty Ltd 12 Ashley St Chatswood NSW 2067 T 02 9910 6200 F 02 9910 6201 D 02 9910 6220 M 0407 00 3037

hurst@envirolabservices.com.au | www.envirolabservices.com.au

From: Hilliard, Jonathon [mailto:jhilliard@golder.com.au] Sent: Tuesday, 18 May 2010 08:12 To: Jacinta Hurst

Subject: Additional Analyses - 3 samples from COA 40662

Hi Jacinta,

Could you please run some TCLP tests for metals for the following three samples from the batch 40662 (our ref. 107622059 Penrith).

- •
- BHD-2 (0.5-0.6m) ELS ref. 40662-17); BHG-2 (0.5-0.6m) ELS ref. 40662-31; and BHI-1 (0.5-0.6m) ELS ref. 40662-39.
- ٠
- Any questions give me a ring. Cheers,

Jon

Envirolab Ref: 40662A Due: 25/5/10 Std TIM.



**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 40662**

**Client: Golder Associates** 124 Pacific Highway St Leonards NSW 2065

Attention: Ralph Erni

#### Sample log in details:

Your Reference: No. of samples: Date samples received: Date completed instructions received: 107622059, Penrith 44 Soils 05/05/10 05/05/10

#### 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:**

12/05/10 Date results requested by: Date of Preliminary Report: Not issued 13/05/10 Issue Date: NATA accreditation number 2901. This document shall not be reproduced except in full. This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with \*.

**Results Approved By:** 

Kluign Morgen

Rhian Morgan Metals Supervisor

Jacinta/Hurst

Laboratory Manager

Envirolab Reference: **Revision No:** 

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M. Maugjeld Matt Mansfield Chemist



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| vTPH & BTEX in Soil            |       |            |            |            |            |            |
|--------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                 | UNITS | 40662-1    | 40662-2    | 40662-3    | 40662-4    | 40662-5    |
| Your Reference                 |       | BH1-2      | BH2-1      | BH2-2      | BH3-1      | BH4-1      |
| Depth                          |       | 0.25-0.35  | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15  |
| Date Sampled                   |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                 |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                 | -     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10     |
| Date analysed                  | -     | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10    |
| vTPH C6 - C9                   | 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 | %     | 107        | 119        | 112        | 116        | 109        |
|                                |       |            |            |            |            |            |

| vTPH & BTEX in Soil            |       |            |            |            |            |            |
|--------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                 | UNITS | 40662-6    | 40662-7    | 40662-8    | 40662-9    | 40662-10   |
| Your Reference                 |       | BH4-2      | BH5-1      | BH6-1      | BH7-1      | BH7-2      |
| Depth                          |       | 0.4-0.5    | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6    |
| Date Sampled                   |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/2010 |
| Type of sample                 |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                 | -     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10     |
| Date analysed                  | -     | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10    |
| vTPH C6 - C9                   | 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 | %     | 113        | 119        | 115        | 118        | 121        |

| vTPH & BTEX in Soil            |       |           |           |            |            |           |
|--------------------------------|-------|-----------|-----------|------------|------------|-----------|
| Our Reference:                 | UNITS | 40662-11  | 40662-12  | 40662-13   | 40662-14   | 40662-15  |
| Your Reference                 |       | BHA-1     | BHA-2     | BHB-1      | BHB-3      | BHC-1     |
| Depth                          |       | 0.11-0.2  | 0.5-0.6   | 0.5-0.6    | 1.5-1.6    | 0.3-0.5   |
| Date Sampled                   |       | 3/05/2010 | 3/05/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010 |
| Type of sample                 |       | Soil      | Soil      | Soil       | Soil       | Soil      |
| Date extracted                 | -     | 7/5/10    | 7/5/10    | 7/5/10     | 7/5/10     | 7/5/10    |
| Date analysed                  | -     | 10/5/10   | 10/5/10   | 10/5/10    | 10/5/10    | 10/5/10   |
| vTPH C6 - C9                   | 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 | %     | 113       | 117       | 115        | 109        | 115       |

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| vTPH & BTEX in Soil            |       |            |            |            |           |            |
|--------------------------------|-------|------------|------------|------------|-----------|------------|
| Our Reference:                 | UNITS | 40662-16   | 40662-17   | 40662-18   | 40662-19  | 40662-20   |
| Your Reference                 |       | BHC-2      | BHD-2      | BHD-3      | BHE-2     | BHF-1      |
| Depth                          |       | 0.9-1.0    | 0.5-0.6    | 0.9-1.0    | 0.5-0.6   | 0.1-0.2    |
| Date Sampled                   |       | 3/05/2010  | 3/05/2010  | 3/05/2010  | 3/05/2010 | 30/04/2010 |
| Type of sample                 |       | Soil       | Soil       | Soil       | Soil      | Soil       |
| Date extracted                 | -     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10    | 7/5/10     |
| Date analysed                  | -     | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10   | 10/5/10    |
| vTPH C6 - C9                   | 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 | %     | 116        | 104        | 112        | 97        | 112        |
| vTPH & BTEX in Soil            |       |            |            |            |           |            |
| Our Reference:                 | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24  | 40662-25   |
| Your Reference                 |       | BHF-3      | BH8-1      | BH8-3      | BH9-2     | BH10-1     |
| Depth                          |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35 | 0.05-0.15  |
| Date Sampled                   |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010 | 3/05/2010  |
| Type of sample                 |       | Soil       | Soil       | Soil       | Soil      | Soil       |
| Date extracted                 | -     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10    | 7/5/10     |
| Date analysed                  | -     | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10   | 10/5/10    |
|                                | ma/ka | <25        | <25        | <25        | <25       | <25        |

| Date analysed                  | -     | 10/5/10 | 10/5/10 | 10/5/10 | 10/5/10 | 10/5/10 |
|--------------------------------|-------|---------|---------|---------|---------|---------|
| vTPH C6 - C9                   | 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 | %     | 119     | 120     | 121     | 116     | 118     |

| vTPH & BTEX in Soil            |       |           |            |            |           |           |
|--------------------------------|-------|-----------|------------|------------|-----------|-----------|
| Our Reference:                 | UNITS | 40662-26  | 40662-27   | 40662-28   | 40662-29  | 40662-30  |
| Your Reference                 |       | BH10-2    | BH11-1     | BH11-2     | BH12-1    | BH12-3    |
| Depth                          |       | 0.3-0.4   | 0.05-0.15  | 0.25-0.35  | 0.05-0.15 | 0.65-0.75 |
| Date Sampled                   |       | 3/05/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010 | 3/05/2010 |
| Type of sample                 |       | Soil      | Soil       | Soil       | Soil      | Soil      |
| Date extracted                 | -     | 7/5/10    | 7/5/10     | 7/5/10     | 7/5/10    | 7/5/10    |
| Date analysed                  | -     | 10/5/10   | 10/5/10    | 10/5/10    | 10/5/10   | 10/5/10   |
| vTPH C6 - C9                   | 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 | %     | 94        | 118        | 118        | 119       | 119       |



| vTPH & BTEX in Soil            |       |           |           |            |            |            |
|--------------------------------|-------|-----------|-----------|------------|------------|------------|
| Our Reference:                 | UNITS | 40662-31  | 40662-32  | 40662-33   | 40662-34   | 40662-35   |
| Your Reference                 |       | BHG-2     | BHH-2     | BH13-2     | BH13-3     | BH14-1     |
| Depth                          |       | 0.5-0.6   | 0.5-0.6   | 0.6-0.7    | 1.0-1.1    | 0.1-0.2    |
| Date Sampled                   |       | 3/05/2010 | 3/05/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                 |       | Soil      | Soil      | Soil       | Soil       | Soil       |
| Date extracted                 | -     | 7/5/10    | 7/5/10    | 7/5/10     | 7/5/10     | 7/5/10     |
| Date analysed                  | -     | 10/5/10   | 10/5/10   | 10/5/10    | 10/5/10    | 10/5/10    |
| vTPH C6 - C9                   | 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 | %     | 118       | 118       | 118        | 105        | 108        |

| UNITS | 40662-36                                                   | 40662-37                                                                                                                                       | 40662-38                                                                                                                                                                                                                                          | 40662-39                                                                                                                                                                                                                                                                                                                                           | 40662-40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | BH14-2                                                     | BH15-2                                                                                                                                         | BH16-1                                                                                                                                                                                                                                            | BHI-1                                                                                                                                                                                                                                                                                                                                              | BHI-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|       | 0.5-0.6                                                    | 0.3-0.35                                                                                                                                       | 0.1-0.2                                                                                                                                                                                                                                           | 0.5-0.6                                                                                                                                                                                                                                                                                                                                            | 0.9-1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|       | 29/04/2010                                                 | 29/04/2010                                                                                                                                     | 29/04/2010                                                                                                                                                                                                                                        | 29/04/2010                                                                                                                                                                                                                                                                                                                                         | 29/04/2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|       | Soil                                                       | Soil                                                                                                                                           | Soil                                                                                                                                                                                                                                              | Soil                                                                                                                                                                                                                                                                                                                                               | Soil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| -     | 7/5/10                                                     | 7/5/10                                                                                                                                         | 7/5/10                                                                                                                                                                                                                                            | 7/5/10                                                                                                                                                                                                                                                                                                                                             | 7/5/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| -     | 10/5/10                                                    | 10/5/10                                                                                                                                        | 10/5/10                                                                                                                                                                                                                                           | 10/5/10                                                                                                                                                                                                                                                                                                                                            | 10/5/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| mg/kg | <25                                                        | <25                                                                                                                                            | <25                                                                                                                                                                                                                                               | <25                                                                                                                                                                                                                                                                                                                                                | <25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| mg/kg | <0.5                                                       | <0.5                                                                                                                                           | <0.5                                                                                                                                                                                                                                              | <0.5                                                                                                                                                                                                                                                                                                                                               | <0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mg/kg | <0.5                                                       | <0.5                                                                                                                                           | <0.5                                                                                                                                                                                                                                              | <0.5                                                                                                                                                                                                                                                                                                                                               | <0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mg/kg | <1.0                                                       | <1.0                                                                                                                                           | <1.0                                                                                                                                                                                                                                              | <1.0                                                                                                                                                                                                                                                                                                                                               | <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mg/kg | <2.0                                                       | <2.0                                                                                                                                           | <2.0                                                                                                                                                                                                                                              | <2.0                                                                                                                                                                                                                                                                                                                                               | <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mg/kg | <1.0                                                       | <1.0                                                                                                                                           | <1.0                                                                                                                                                                                                                                              | <1.0                                                                                                                                                                                                                                                                                                                                               | <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| %     | 111                                                        | 104                                                                                                                                            | 112                                                                                                                                                                                                                                               | 105                                                                                                                                                                                                                                                                                                                                                | 98                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|       | <br><br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg | BH14-2            0.5-0.6           29/04/2010         Soil           -         7/5/10           -         10/5/10           mg/kg         <25 | BH14-2         BH15-2           0.5-0.6         0.3-0.35           29/04/2010         29/04/2010           Soil         29/04/2010           Soil         Soil           -         7/5/10           -         10/5/10           mg/kg         <25 | BH14-2         BH15-2         BH16-1           0.5-0.6         0.3-0.35         0.1-0.2           29/04/2010         29/04/2010         29/04/2010           Soil         Soil         29/04/2010           -         7/5/10         7/5/10         7/5/10           -         10/5/10         10/5/10         10/5/10           mg/kg         <25 | BH14-2         BH15-2         BH16-1         BHI-1            0.5-0.6         0.3-0.35         0.1-0.2         29/04/2010           29/04/2010         29/04/2010         29/04/2010         29/04/2010         29/04/2010           Soil         Soil         Soil         Soil         29/04/2010         29/04/2010           -         7/5/10         7/5/10         7/5/10         7/5/10           -         10/5/10         10/5/10         10/5/10         10/5/10           mg/kg         <25 |

| vTPH & BTEX in Soil            |       |            |            |            |            |
|--------------------------------|-------|------------|------------|------------|------------|
| Our Reference:                 | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |
| Your Reference                 |       | DUPA       | DUPB       | DUPC       | DUPD       |
| Depth                          |       | -          | -          | -          | -          |
| Date Sampled                   |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                 |       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                 | -     | 7/5/10     | 7/5/10     | 7/5/10     | 7/5/10     |
| Date analysed                  | -     | 10/5/10    | 10/5/10    | 10/5/10    | 10/5/10    |
| vTPH C6 - C9                   | mg/kg | <25        | <25        | <25        | <25        |
| Benzene                        | mg/kg | <0.5       | <0.5       | <0.5       | <0.5       |
| Toluene                        | mg/kg | <0.5       | <0.5       | <0.5       | <0.5       |
| Ethylbenzene                   | mg/kg | <1.0       | <1.0       | <1.0       | <1.0       |
| m+p-xylene                     | mg/kg | <2.0       | <2.0       | <2.0       | <2.0       |
| o-Xylene                       | mg/kg | <1.0       | <1.0       | <1.0       | <1.0       |
| Surrogate aaa-Trifluorotoluene | %     | 103        | 112        | 117        | 109        |

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| sTPH in Soil (C10-C36)                   |       |            |            |            |            |            |
|------------------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                           | UNITS | 40662-1    | 40662-2    | 40662-3    | 40662-4    | 40662-5    |
| Your Reference                           |       | BH1-2      | BH2-1      | BH2-2      | BH3-1      | BH4-1      |
| Depth                                    |       | 0.25-0.35  | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15  |
| Date Sampled                             |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                           |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                           | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14                            | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28                            | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36                            | mg/kg | <100       | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl                    | %     | 79         | 77         | 79         | 79         | 81         |
| sTPH in Soil (C10-C36)                   |       |            |            |            |            |            |
| Our Reference:                           | UNITS | 40662-6    | 40662-7    | 40662-8    | 40662-9    | 40662-10   |
| Your Reference                           |       | BH4-2      | BH5-1      | BH6-1      | BH7-1      | BH7-2      |
| Depth                                    |       | 0.4-0.5    | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6    |
| Date Sampled                             |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/2010 |
| Type of sample                           |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                           | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14                            | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28                            | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36                            | mg/kg | <100       | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl                    | %     | 82         | 124        | 89         | 83         | 81         |
|                                          |       |            |            |            |            |            |
| sTPH in Soil (C10-C36)<br>Our Reference: | UNITS | 40662-11   | 40662-12   | 40662-13   | 40662-14   | 40662-15   |
| Your Reference                           |       | BHA-1      | BHA-2      | BHB-1      | BHB-3      | BHC-1      |
| Depth                                    |       | 0.11-0.2   | 0.5-0.6    | 0.5-0.6    | 1.5-1.6    | 0.3-0.5    |
| Date Sampled                             |       | 3/05/2010  | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  |
| Type of sample                           |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                           | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14                            | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28                            | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36                            | mg/kg | <100       | <100       | <100       | <100       | 120        |
| Surrogate o-Terphenyl                    | %     | 85         | 88         | 89         | 88         | 113        |

| sTPH in Soil (C10-C36) |       |            |            |            |            |            |
|------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:         | UNITS | 40662-16   | 40662-17   | 40662-18   | 40662-19   | 40662-20   |
| Your Reference         |       | BHC-2      | BHD-2      | BHD-3      | BHE-2      | BHF-1      |
| Depth                  |       | 0.9-1.0    | 0.5-0.6    | 0.9-1.0    | 0.5-0.6    | 0.1-0.2    |
| Date Sampled           |       | 3/05/2010  | 3/05/2010  | 3/05/2010  | 3/05/2010  | 30/04/2010 |
| Type of sample         |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed          | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14          | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28          | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36          | mg/kg | <100       | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl  | %     | 86         | 92         | 87         | 90         | 94         |
| sTPH in Soil (C10-C36) |       |            |            |            |            |            |
| Our Reference:         | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24   | 40662-25   |
| Your Reference         |       | BHF-3      | BH8-1      | BH8-3      | BH9-2      | BH10-1     |
| Depth                  |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35  | 0.05-0.15  |
| Date Sampled           |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample         |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed          | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14          | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28          | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36          | mg/kg | <100       | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl  | %     | 94         | 121        | 94         | 96         | 85         |
| sTPH in Soil (C10-C36) |       |            |            |            |            |            |
| Our Reference:         | UNITS | 40662-26   | 40662-27   | 40662-28   | 40662-29   | 40662-30   |
| Your Reference         |       | BH10-2     | BH11-1     | BH11-2     | BH12-1     | BH12-3     |
| Depth                  |       | 0.3-0.4    | 0.05-0.15  | 0.25-0.35  | 0.05-0.15  | 0.65-0.75  |
| Date Sampled           |       | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample         |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed          | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14          | mg/kg | <50        | <50        | <50        | <50        | <50        |
| TPH C15 - C28          | mg/kg | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36          | mg/kg | <100       | 110        | <100       | 100        | <100       |
| Surrogate o-Terphenyl  | %     | 137        | 97         | 92         | 92         | 87         |

| sTPH in Soil (C10-C36)                |       |            |            |            |            |           |
|---------------------------------------|-------|------------|------------|------------|------------|-----------|
| Our Reference:                        | UNITS | 40662-31   | 40662-32   | 40662-33   | 40662-34   | 40662-35  |
| Your Reference                        |       | BHG-2      | BHH-2      | BH13-2     | BH13-3     | BH14-1    |
| Depth                                 |       | 0.5-0.6    | 0.5-0.6    | 0.6-0.7    | 1.0-1.1    | 0.1-0.2   |
| Date Sampled                          |       | 3/05/2010  | 3/05/2010  | 29/04/2010 | 29/04/2010 | 29/04/201 |
| Type of sample                        |       | Soil       | Soil       | Soil       | Soil       | Soil      |
| Date extracted                        | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/201 |
| Date analysed                         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/201 |
| TPH C10 - C14                         | mg/kg | <50        | <50        | <50        | <50        | <50       |
| TPH C15 - C28                         | mg/kg | <100       | <100       | <100       | <100       | <100      |
| TPH C <sub>29</sub> - C <sub>36</sub> | mg/kg | <100       | <100       | <100       | <100       | <100      |
| Surrogate o-Terphenyl                 | %     | 89         | 83         | 81         | 86         | 85        |
|                                       |       | 1          | 1          | 1          |            |           |
| sTPH in Soil (C10-C36)                |       |            |            |            |            |           |
| Our Reference:                        | UNITS | 40662-36   | 40662-37   | 40662-38   | 40662-39   | 40662-40  |
| Your Reference                        |       | BH14-2     | BH15-2     | BH16-1     | BHI-1      | BHI-2     |
| Depth                                 |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2    | 0.5-0.6    | 0.9-1.0   |
| Date Sampled                          |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/201 |
| Type of sample                        |       | Soil       | Soil       | Soil       | Soil       | Soil      |
| Date extracted                        | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/201 |
| Date analysed                         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/201 |
| TPH C10 - C14                         | mg/kg | <50        | <50        | <50        | <50        | <50       |
| TPH C15 - C28                         | mg/kg | <100       | <100       | <100       | <100       | <100      |
| TPH C <sub>29</sub> - C <sub>36</sub> | mg/kg | <100       | <100       | <100       | <100       | <100      |
| Surrogate o-Terphenyl                 | %     | 88         | 87         | 88         | 116        | 118       |
|                                       |       |            |            |            |            |           |
| sTPH in Soil (C10-C36)                |       | 40000 44   | 40000 40   | 40000 40   | 40000 44   |           |
| Our Reference:                        | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |           |
| Your Reference                        |       | DUPA       | DUPB       | DUPC       | DUPD       |           |

| Our Reference:        | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |
|-----------------------|-------|------------|------------|------------|------------|
| Your Reference        |       | DUPA       | DUPB       | DUPC       | DUPD       |
| Depth                 |       | -          | -          | -          | -          |
| Date Sampled          |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample        |       | Soil       | Soil       | Soil       | Soil       |
| Date extracted        | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed         | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| TPH C10 - C14         | mg/kg | <50        | <50        | <50        | <50        |
| TPH C15 - C28         | mg/kg | <100       | <100       | <100       | <100       |
| TPH C29 - C36         | mg/kg | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl | %     | 118        | 119        | 128        | 120        |

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| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-1    | 40662-2    | 40662-3    | 40662-4    | 40662-5    |
| Your Reference            |       | BH1-2      | BH2-1      | BH2-2      | BH3-1      | BH4-1      |
| Depth                     |       | 0.25-0.35  | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15  |
| Date Sampled              |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 117        | 110        | 110        | 108        | 109        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-6    | 40662-7    | 40662-8    | 40662-9    | 40662-10   |
| Your Reference            |       | BH4-2      | BH5-1      | BH6-1      | BH7-1      | BH7-2      |
| Depth                     |       | 0.4-0.5    | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6    |
| Date Sampled              |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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       | 0.2        | <0.1       | <0.1       |
| Pyrene                    | mg/kg | <0.1       | 0.1        | 0.2        | <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       | 0.1        | <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-d14 | %     | 110        | 114        | 115        | 113        | 107        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-11   | 40662-12   | 40662-13   | 40662-14   | 40662-15   |
| Your Reference            |       | BHA-1      | BHA-2      | BHB-1      | BHB-3      | BHC-1      |
| Depth                     |       | 0.11-0.2   | 0.5-0.6    | 0.5-0.6    | 1.5-1.6    | 0.3-0.5    |
| Date Sampled              |       | 3/05/2010  | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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       | 0.3        |
| Pyrene                    | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | 0.4        |
| Benzo(a)anthracene        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | 0.2        |
| Chrysene                  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | 0.3        |
| Benzo(b+k)fluoranthene    | mg/kg | <0.2       | <0.2       | <0.2       | <0.2       | 0.5        |
| Benzo(a)pyrene            | mg/kg | <0.05      | <0.05      | <0.05      | <0.05      | 0.3        |
| Indeno(1,2,3-c,d)pyrene   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | 0.2        |
| 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       | 0.2        |
| Surrogate p-Terphenyl-d14 | %     | 114        | 108        | 110        | 113        | 114        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-16   | 40662-17   | 40662-18   | 40662-19   | 40662-20   |
| Your Reference            |       | BHC-2      | BHD-2      | BHD-3      | BHE-2      | BHF-1      |
| Depth                     |       | 0.9-1.0    | 0.5-0.6    | 0.9-1.0    | 0.5-0.6    | 0.1-0.2    |
| Date Sampled              |       | 3/05/2010  | 3/05/2010  | 3/05/2010  | 3/05/2010  | 30/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 113        | 112        | 108        | 115        | 114        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24   | 40662-25   |
| Your Reference            |       | BHF-3      | BH8-1      | BH8-3      | BH9-2      | BH10-1     |
| Depth                     |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35  | 0.05-0.15  |
| Date Sampled              |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 117        | 112        | 112        | 110        | 110        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-26   | 40662-27   | 40662-28   | 40662-29   | 40662-30   |
| Your Reference            |       | BH10-2     | BH11-1     | BH11-2     | BH12-1     | BH12-3     |
| Depth                     |       | 0.3-0.4    | 0.05-0.15  | 0.25-0.35  | 0.05-0.15  | 0.65-0.75  |
| Date Sampled              |       | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 113        | 113        | 115        | 114        | 108        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-31   | 40662-32   | 40662-33   | 40662-34   | 40662-35   |
| Your Reference            |       | BHG-2      | BHH-2      | BH13-2     | BH13-3     | BH14-1     |
| Depth                     |       | 0.5-0.6    | 0.5-0.6    | 0.6-0.7    | 1.0-1.1    | 0.1-0.2    |
| Date Sampled              |       | 3/05/2010  | 3/05/2010  | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 114        | 109        | 113        | 109        | 114        |

| PAHs in Soil              |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-36   | 40662-37   | 40662-38   | 40662-39   | 40662-40   |
| Your Reference            |       | BH14-2     | BH15-2     | BH16-1     | BHI-1      | BHI-2      |
| Depth                     |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2    | 0.5-0.6    | 0.9-1.0    |
| Date Sampled              |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| 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-d14 | %     | 106        | 107        | 111        | 107        | 108        |

| PAHs in Soil              |       |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |
| Your Reference            |       | DUPA       | DUPB       | DUPC       | DUPD       |
| Depth                     |       | -          | -          | -          | -          |
| Date Sampled              |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample            |       | Soil       | Soil       | Soil       | Soil       |
| Date extracted            | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed             | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Naphthalene               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Acenaphthylene            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Acenaphthene              | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Fluorene                  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Phenanthrene              | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Anthracene                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Fluoranthene              | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Pyrene                    | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Benzo(a)anthracene        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Chrysene                  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Benzo(b+k)fluoranthene    | mg/kg | <0.2       | <0.2       | <0.2       | <0.2       |
| Benzo(a)pyrene            | mg/kg | <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       |
| Dibenzo(a,h)anthracene    | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Benzo(g,h,i)perylene      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate p-Terphenyl-d14 | %     | 111        | 108        | 115        | 106        |

| Organochlorine Pesticides in soil |       |                    |            |            |            |            |
|-----------------------------------|-------|--------------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-1            | 40662-2    | 40662-3    | 40662-4    | 40662-5    |
| Your Reference                    |       | BH1-2              | BH2-1      | BH2-2      | BH3-1      | BH4-1      |
| Depth                             |       | 0.25-0.35          | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15  |
| Date Sampled                      |       | 30/04/2010<br>Soil | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                    |       |                    | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010         | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010         | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 125                | 110        | 116        | 115        | 116        |

| Organochlorine Pesticides in soil |       |                    |            |            |            |            |
|-----------------------------------|-------|--------------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-6            | 40662-7    | 40662-8    | 40662-9    | 40662-10   |
| Your Reference                    |       | BH4-2              | BH5-1      | BH6-1      | BH7-1      | BH7-2      |
| Depth                             |       | 0.4-0.5            | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6    |
| Date Sampled                      |       | 29/04/2010<br>Soil | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/2010 |
| Type of sample                    |       |                    | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010         | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010         | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1               | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 115                | 112        | 122        | 120        | 115        |

| Organochlorine Pesticides in soil |       |            |            |            |            |            |
|-----------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-11   | 40662-12   | 40662-13   | 40662-14   | 40662-15   |
| Your Reference                    |       | BHA-1      | BHA-2      | BHB-1      | BHB-3      | BHC-1      |
| Depth                             |       | 0.11-0.2   | 0.5-0.6    | 0.5-0.6    | 1.5-1.6    | 0.3-0.5    |
| Date Sampled                      |       | 3/05/2010  | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  |
| Type of sample                    |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 117        | 120        | 117        | 115        | 117        |



| Organochlorine Pesticides in soil |       |            |            |            |            |            |
|-----------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-16   | 40662-17   | 40662-18   | 40662-19   | 40662-20   |
| Your Reference                    |       | BHC-2      | BHD-2      | BHD-3      | BHE-2      | BHF-1      |
| Depth                             |       | 0.9-1.0    | 0.5-0.6    | 0.9-1.0    | 0.5-0.6    | 0.1-0.2    |
| Date Sampled                      |       | 3/05/2010  | 3/05/2010  | 3/05/2010  | 3/05/2010  | 30/04/2010 |
| Type of sample                    |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 118        | 118        | 117        | 116        | 116        |

| Organochlorine Pesticides in soil |       |            |            |            |            |            |
|-----------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24   | 40662-25   |
| Your Reference                    |       | BHF-3      | BH8-1      | BH8-3      | BH9-2      | BH10-1     |
| Depth                             |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35  | 0.05-0.15  |
| Date Sampled                      |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample                    |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 130        | 121        | 125        | 140        | 129        |

| Organochlorine Pesticides in soil |       |                   |                    |                    |                   |                   |
|-----------------------------------|-------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Our Reference:                    | UNITS | 40662-26          | 40662-27           | 40662-28           | 40662-29          | 40662-30          |
| Your Reference                    |       | BH10-2            | BH11-1             | BH11-2             | BH12-1            | BH12-3            |
| Depth                             |       | 0.3-0.4           | 0.05-0.15          | 0.25-0.35          | 0.05-0.15         | 0.65-0.75         |
| Date Sampled                      |       | 3/05/2010<br>Soil | 30/04/2010<br>Soil | 30/04/2010<br>Soil | 3/05/2010<br>Soil | 3/05/2010<br>Soil |
| Type of sample                    |       |                   |                    |                    |                   |                   |
| Date extracted                    | -     | 07/05/2010        | 07/05/2010         | 07/05/2010         | 07/05/2010        | 07/05/2010        |
| Date analysed                     | -     | 07/05/2010        | 07/05/2010         | 07/05/2010         | 07/05/2010        | 07/05/2010        |
| HCB                               | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| alpha-BHC                         | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| gamma-BHC                         | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| beta-BHC                          | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Heptachlor                        | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| delta-BHC                         | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Aldrin                            | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Heptachlor Epoxide                | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| gamma-Chlordane                   | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| alpha-chlordane                   | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Endosulfan I                      | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| pp-DDE                            | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Dieldrin                          | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Endrin                            | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| pp-DDD                            | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Endosulfan II                     | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| pp-DDT                            | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Endrin Aldehyde                   | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Endosulfan Sulphate               | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Methoxychlor                      | mg/kg | <0.1              | <0.1               | <0.1               | <0.1              | <0.1              |
| Surrogate TCLMX                   | %     | 115               | 120                | 126                | 122               | 120               |

| Organochlorine Pesticides in soil |       |            |            |            |            |            |
|-----------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-31   | 40662-32   | 40662-33   | 40662-34   | 40662-35   |
| Your Reference                    |       | BHG-2      | BHH-2      | BH13-2     | BH13-3     | BH14-1     |
| Depth                             |       | 0.5-0.6    | 0.5-0.6    | 0.6-0.7    | 1.0-1.1    | 0.1-0.2    |
| Date Sampled                      |       | 3/05/2010  | 3/05/2010  | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                    |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 122        | 123        | 115        | 126        | 116        |

| Organochlorine Pesticides in soil |       |            |            |            |            |            |
|-----------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                    | UNITS | 40662-36   | 40662-37   | 40662-38   | 40662-39   | 40662-40   |
| Your Reference                    |       | BH14-2     | BH15-2     | BH16-1     | BHI-1      | BHI-2      |
| Depth                             |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2    | 0.5-0.6    | 0.9-1.0    |
| Date Sampled                      |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                    |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted                    | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed                     | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| HCB                               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| beta-BHC                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor                        | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| delta-BHC                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Aldrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Heptachlor Epoxide                | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| gamma-Chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| alpha-chlordane                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan I                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDE                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Dieldrin                          | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDD                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan II                     | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| pp-DDT                            | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endrin Aldehyde                   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Endosulfan Sulphate               | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Methoxychlor                      | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX                   | %     | 123        | 125        | 127        | 126        | 129        |

| Organochlorine Pesticides in soil |       |                    |                    |                    |                    |
|-----------------------------------|-------|--------------------|--------------------|--------------------|--------------------|
| Our Reference:                    | UNITS | 40662-41           | 40662-42           | 40662-43           | 40662-44           |
| Your Reference                    |       | DUPA               | DUPB               | DUPC               | DUPD               |
| Depth                             |       | -                  | -                  | -                  | -                  |
| Date Sampled<br>Type of sample    |       | 29/04/2010<br>Soil | 29/04/2010<br>Soil | 29/04/2010<br>Soil | 29/04/2010<br>Soil |
|                                   |       |                    |                    |                    |                    |
| Date extracted                    | -     | 07/05/2010         | 07/05/2010         | 07/05/2010         | 07/05/2010         |
| Date analysed                     | -     | 07/05/2010         | 07/05/2010         | 07/05/2010         | 07/05/2010         |
| HCB                               | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| alpha-BHC                         | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| gamma-BHC                         | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| beta-BHC                          | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Heptachlor                        | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| delta-BHC                         | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Aldrin                            | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Heptachlor Epoxide                | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| gamma-Chlordane                   | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| alpha-chlordane                   | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Endosulfan I                      | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| pp-DDE                            | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Dieldrin                          | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Endrin                            | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| pp-DDD                            | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Endosulfan II                     | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| pp-DDT                            | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Endrin Aldehyde                   | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Endosulfan Sulphate               | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Methoxychlor                      | mg/kg | <0.1               | <0.1               | <0.1               | <0.1               |
| Surrogate TCLMX                   | %     | 126                | 118                | 126                | 123                |



| PCBs in Soil    |       |            |            |            |            |            |
|-----------------|-------|------------|------------|------------|------------|------------|
| Our Reference:  | UNITS | 40662-1    | 40662-2    | 40662-3    | 40662-4    | 40662-5    |
| Your Reference  |       | BH1-2      | BH2-1      | BH2-2      | BH3-1      | BH4-1      |
| Depth           |       | 0.25-0.35  | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15  |
| Date Sampled    |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX | %     | 125        | 110        | 116        | 115        | 116        |
| PCBs in Soil    |       |            |            |            |            |            |
| Our Reference:  | UNITS | 40662-6    | 40662-7    | 40662-8    | 40662-9    | 40662-10   |
| Your Reference  |       | BH4-2      | BH5-1      | BH6-1      | BH7-1      | BH7-2      |
| Depth           |       | 0.4-0.5    | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6    |
| Date Sampled    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/2010 |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
|                 |       |            | 1          | 1          | 1          |            |

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

115

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

112

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

122

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

120

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

<0.1

115

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

%

Arochlor 1016

Arochlor 1221\*

Arochlor 1232

Arochlor 1242

Arochlor 1248

Arochlor 1254

Arochlor 1260

Surrogate TCLMX

| PCBs in Soil    |       |            |            |            |            |            |
|-----------------|-------|------------|------------|------------|------------|------------|
| Our Reference:  | UNITS | 40662-11   | 40662-12   | 40662-13   | 40662-14   | 40662-15   |
| Your Reference  |       | BHA-1      | BHA-2      | BHB-1      | BHB-3      | BHC-1      |
| Depth           |       | 0.11-0.2   | 0.5-0.6    | 0.5-0.6    | 1.5-1.6    | 0.3-0.5    |
| Date Sampled    |       | 3/05/2010  | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX | %     | 117        | 120        | 117        | 115        | 117        |
| PCBs in Soil    |       |            |            |            |            |            |
| Our Reference:  | UNITS | 40662-16   | 40662-17   | 40662-18   | 40662-19   | 40662-20   |
| Your Reference  |       | BHC-2      | BHD-2      | BHD-3      | BHE-2      | BHF-1      |
| Depth           |       | 0.9-1.0    | 0.5-0.6    | 0.9-1.0    | 0.5-0.6    | 0.1-0.2    |
| Date Sampled    |       | 3/05/2010  | 3/05/2010  | 3/05/2010  | 3/05/2010  | 30/04/2010 |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
|                 |       | 1          | 1          | 1          | 1          | 1          |

<0.1

<0.1

<0.1

<0.1

118

<0.1

<0.1

<0.1

<0.1

118

<0.1

<0.1

<0.1

<0.1

117

<0.1

<0.1

<0.1

<0.1

116

<0.1

<0.1

<0.1

<0.1

116

mg/kg

mg/kg

mg/kg

mg/kg

%

Arochlor 1242

Arochlor 1248

Arochlor 1254

Arochlor 1260

Surrogate TCLMX

| PCBs in Soil    |       |            |            |            |            |            |
|-----------------|-------|------------|------------|------------|------------|------------|
| Our Reference:  | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24   | 40662-25   |
| Your Reference  |       | BHF-3      | BH8-1      | BH8-3      | BH9-2      | BH10-1     |
| Depth           |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35  | 0.05-0.15  |
| Date Sampled    |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX | %     | 130        | 131        | 125        | 140        | 129        |
| PCBs in Soil    |       |            |            |            |            |            |
| Our Reference:  | UNITS | 40662-26   | 40662-27   | 40662-28   | 40662-29   | 40662-30   |
| Your Reference  |       | BH10-2     | BH11-1     | BH11-2     | BH12-1     | BH12-3     |
| Depth           |       | 0.3-0.4    | 0.05-0.15  | 0.25-0.35  | 0.05-0.15  | 0.65-0.75  |
| Date Sampled    |       | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010  | 3/05/2010  |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
|                 |       | 1          | 1          | 1          | 1          |            |

115

120

Surrogate TCLMX

%

120

122

126

| PCBs in Soil    |       |            |            |                    |                   |                   |
|-----------------|-------|------------|------------|--------------------|-------------------|-------------------|
| Our Reference:  | UNITS | 40662-31   | 40662-32   | 40662-33           | 40662-34          | 40662-35          |
| Your Reference  |       | BHG-2      | BHH-2      | BH13-2             | BH13-3            | BH14-1            |
| Depth           |       | 0.5-0.6    | 0.5-0.6    | 0.6-0.7            | 1.0-1.1           | 0.1-0.2           |
| Date Sampled    |       | 3/05/2010  | 3/05/2010  | 29/04/2010         | 29/04/2010        | 29/04/2010        |
| Type of sample  |       | Soil       | Soil       | Soil               | Soil              | Soil              |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010         | 07/05/2010        | 07/05/2010        |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010         | 07/05/2010        | 07/05/2010        |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1               | <0.1              | <0.1              |
| Surrogate TCLMX | %     | 122        | 123        | 115                | 126               | 116               |
| PCBs in Soil    |       |            |            |                    |                   |                   |
| Our Reference:  | UNITS | 40662-36   | 40662-37   | 40662-38           | 40662-39          | 40662-40          |
| Your Reference  |       | BH14-2     | BH15-2     | 40002-38<br>BH16-1 | 40002-39<br>BHI-1 | 40002-40<br>BHI-2 |
| Depth           |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2            | 0.5-0.6           | 0.9-1.0           |
| Date Sampled    |       | 29/04/2010 | 29/04/2010 | 29/04/2010         | 29/04/2010        | 29/04/2010        |

|                 |       | 0          | DINO 2     | BIIIOI     | BIIIII     | DINE       |  |
|-----------------|-------|------------|------------|------------|------------|------------|--|
| Depth           |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2    | 0.5-0.6    | 0.9-1.0    |  |
| Date Sampled    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |  |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       | Soil       |  |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |  |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |  |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |  |
| Surrogate TCLMX | %     | 123        | 125        | 127        | 126        | 129        |  |

| PCBs in Soil    |       |            |            |            |            |
|-----------------|-------|------------|------------|------------|------------|
| Our Reference:  | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |
| Your Reference  |       | DUPA       | DUPB       | DUPC       | DUPD       |
| Depth           |       | -          | -          | -          | -          |
| Date Sampled    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample  |       | Soil       | Soil       | Soil       | Soil       |
| Date extracted  | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Date analysed   | -     | 07/05/2010 | 07/05/2010 | 07/05/2010 | 07/05/2010 |
| Arochlor 1016   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1221*  | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1232   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1242   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1248   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1254   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Arochlor 1260   | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       |
| Surrogate TCLMX | %     | 126        | 118        | 126        | 123        |



| Miscellaneous Inorg - soil             |          |           |            |           |            |
|----------------------------------------|----------|-----------|------------|-----------|------------|
| Our Reference:                         | UNITS    | 40662-18  | 40662-22   | 40662-30  | 40662-40   |
| Your Reference                         |          | BHD-3     | BH8-1      | BH12-3    | BHI-2      |
| Depth                                  |          | 0.9-1.0   | 0.0-0.1    | 0.65-0.75 | 0.9-1.0    |
| Date Sampled                           |          | 3/05/2010 | 30/04/2010 | 3/05/2010 | 29/04/2010 |
| Type of sample                         |          | Soil      | Soil       | Soil      | Soil       |
| Date prepared                          | -        | 7/5/10    | 7/5/10     | 7/5/10    | 7/5/10     |
| Date analysed                          | -        | 7/5/10    | 7/5/10     | 7/5/10    | 7/5/10     |
| pH 1:5 soil:water                      | pH Units | 5.9       | [NA]       | 4.9       | [NA]       |
| Electrical Conductivity 1:5 soil:water | μS/cm    | 640       | 89         | 950       | 350        |
| Chloride, Cl 1:5 soil:water            | mg/kg    | 200       | [NA]       | 830       | [NA]       |
| Sulphate, SO4 1:5 soil:water           | mg/kg    | 680       | [NA]       | 500       | [NA]       |

| Acid Extractable metals in soil |       |            |            |            |            |           |
|---------------------------------|-------|------------|------------|------------|------------|-----------|
| Our Reference:                  | UNITS | 40662-1    | 40662-2    | 40662-3    | 40662-4    | 40662-5   |
| Your Reference                  |       | BH1-2      | BH2-1      | BH2-2      | BH3-1      | BH4-1     |
| Depth                           |       | 0.25-0.35  | 0.05-0.15  | 0.6-0.7    | 0.0-0.1    | 0.05-0.15 |
| Date Sampled                    |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 29/04/2010 | 29/04/201 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil       | Soil      |
| Date digested                   | -     | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10  |
| Date analysed                   | -     | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10  |
| Arsenic                         | mg/kg | 5          | <4         | 9          | 5          | 6         |
| Cadmium                         | mg/kg | <0.5       | <0.5       | <0.5       | <0.5       | <0.5      |
| Chromium                        | mg/kg | 17         | 19         | 27         | 14         | 19        |
| Copper                          | mg/kg | 21         | 43         | 40         | 25         | 65        |
| Lead                            | mg/kg | 14         | 19         | 26         | 22         | 19        |
| Mercury                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1      |
| Nickel                          | mg/kg | 14         | 16         | 15         | 14         | 39        |
| Zinc                            | mg/kg | 43         | 89         | 53         | 62         | 85        |
| Acid Extractable metals in soil |       |            |            |            |            |           |
| Our Reference:                  | UNITS | 40662-6    | 40662-7    | 40662-8    | 40662-9    | 40662-10  |
| Your Reference                  |       | BH4-2      | BH5-1      | BH6-1      | BH7-1      | BH7-2     |
| Depth                           |       | 0.4-0.5    | 0.15-0.25  | 0.1-0.2    | 0.05-0.15  | 0.5-0.6   |
| Date Sampled                    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 30/04/2010 | 30/04/201 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil       | Soil      |

10/05/10

11/05/10

7

<0.5

19

37

26

<0.1

11

48

10/05/10

11/05/10

4

<0.5

29

44

22

<0.1

29

63

10/05/10

11/05/10

5

<0.5

15

26

20

<0.1

14

67

10/05/10

11/05/10

<4

<0.5

13

22

24

<0.1

11

70

10/05/10

11/05/10

<4

<0.5

12

13

15

<0.1

12

47

-

-

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

Date digested

Date analysed

Arsenic

Cadmium

Chromium

Copper

Lead

Mercury

Nickel

Zinc

| UNITS | 40662-11<br>BHA-1                                       | 40662-12                                                                                                                                                    | 40662-13                                                                                                                                                                                                                                      | 40662-14                                                                              | 40662-15                                                                                                  |
|-------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|       | BHA-1                                                   |                                                                                                                                                             |                                                                                                                                                                                                                                               |                                                                                       | 40002-1                                                                                                   |
|       |                                                         | BHA-2                                                                                                                                                       | BHB-1                                                                                                                                                                                                                                         | BHB-3                                                                                 | BHC-1                                                                                                     |
|       | 0.11-0.2                                                | 0.5-0.6                                                                                                                                                     | 0.5-0.6                                                                                                                                                                                                                                       | 1.5-1.6                                                                               | 0.3-0.5                                                                                                   |
|       | 3/05/2010                                               | 3/05/2010                                                                                                                                                   | 30/04/2010                                                                                                                                                                                                                                    | 30/04/2010                                                                            | 3/05/2010                                                                                                 |
|       | Soil                                                    | Soil                                                                                                                                                        | Soil                                                                                                                                                                                                                                          | Soil                                                                                  | Soil                                                                                                      |
| -     | 10/05/10                                                | 10/05/10                                                                                                                                                    | 10/05/10                                                                                                                                                                                                                                      | 10/05/10                                                                              | 10/05/10                                                                                                  |
| -     | 11/05/10                                                | 11/05/10                                                                                                                                                    | 11/05/10                                                                                                                                                                                                                                      | 11/05/10                                                                              | 11/05/10                                                                                                  |
| mg/kg | 7                                                       | 6                                                                                                                                                           | <4                                                                                                                                                                                                                                            | <4                                                                                    | <4                                                                                                        |
| mg/kg | <0.5                                                    | <0.5                                                                                                                                                        | <0.5                                                                                                                                                                                                                                          | <0.5                                                                                  | <0.5                                                                                                      |
| mg/kg | 19                                                      | 19                                                                                                                                                          | 7                                                                                                                                                                                                                                             | 20                                                                                    | 23                                                                                                        |
| mg/kg | 83                                                      | 67                                                                                                                                                          | 11                                                                                                                                                                                                                                            | 41                                                                                    | 12                                                                                                        |
| mg/kg | 29                                                      | 36                                                                                                                                                          | 13                                                                                                                                                                                                                                            | 19                                                                                    | 28                                                                                                        |
| mg/kg | <0.1                                                    | 0.1                                                                                                                                                         | <0.1                                                                                                                                                                                                                                          | 0.2                                                                                   | <0.1                                                                                                      |
| mg/kg | 16                                                      | 14                                                                                                                                                          | 9                                                                                                                                                                                                                                             | 12                                                                                    | 7                                                                                                         |
| mg/kg | 94                                                      | 110                                                                                                                                                         | 39                                                                                                                                                                                                                                            | 62                                                                                    | 110                                                                                                       |
|       |                                                         |                                                                                                                                                             |                                                                                                                                                                                                                                               |                                                                                       |                                                                                                           |
| UNITS | 40662-16                                                | 40662-17                                                                                                                                                    | 40662-18                                                                                                                                                                                                                                      | 40662-19                                                                              | 40662-20                                                                                                  |
|       |                                                         |                                                                                                                                                             |                                                                                                                                                                                                                                               |                                                                                       | 40002 2                                                                                                   |
|       | -                                                       |                                                                                                                                                             | _                                                                                                                                                                                                                                             |                                                                                       | 0.1-0.2                                                                                                   |
|       |                                                         |                                                                                                                                                             |                                                                                                                                                                                                                                               |                                                                                       | 30/04/201                                                                                                 |
|       | Soil                                                    | Soil                                                                                                                                                        | Soil                                                                                                                                                                                                                                          | Soil                                                                                  | Soil                                                                                                      |
|       | -<br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg<br>mg/kg | -  10/05/10    -  11/05/10    mg/kg  7    mg/kg  19    mg/kg  19    mg/kg  29    mg/kg  20.1    mg/kg  16    mg/kg  94    UNITS  40662-16    BHC-2  0.9-1.0 | -  10/05/10  10/05/10    -  11/05/10  11/05/10    mg/kg  7  6    mg/kg  19  19    mg/kg  19  19    mg/kg  29  36    mg/kg  16  14    mg/kg  94  110    UNITS  40662-16  40662-17    BHC-2  BHD-2    .0.9-1.0  0.5-0.6    3/05/2010  3/05/2010 | -  10/05/10  10/05/10  10/05/10    -  11/05/10  11/05/10  11/05/10    mg/kg  7  6  <4 | -  10/05/10  10/05/10  10/05/10  10/05/10    -  11/05/10  11/05/10  11/05/10  11/05/10    mg/kg  7  6  <4 |

10/05/10

11/05/10

6

<0.5

22

34

20

<0.1

19

86

-

-

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

10/05/10

11/05/10

5

<0.5

40

32

18

<0.1

48

58

10/05/10

11/05/10

10

<0.5

16

36

18

<0.1

10

46

10/05/10

11/05/10

12

<0.5

19

44

15

<0.1

31

39

10/05/10

11/05/10

7

<0.5

19

33

26

<0.1

16

82

Date digested

Date analysed

Arsenic

Cadmium

Chromium

Copper

Lead

Mercury

Nickel

Zinc

| Acid Extractable metals in soil |       |            |            |            |           |           |
|---------------------------------|-------|------------|------------|------------|-----------|-----------|
| Our Reference:                  | UNITS | 40662-21   | 40662-22   | 40662-23   | 40662-24  | 40662-25  |
| Your Reference                  |       | BHF-3      | BH8-1      | BH8-3      | BH9-2     | BH10-1    |
| Depth                           |       | 0.9-1.0    | 0.0-0.1    | 0.5-0.6    | 0.25-0.35 | 0.05-0.15 |
| Date Sampled                    |       | 30/04/2010 | 30/04/2010 | 30/04/2010 | 3/05/2010 | 3/05/2010 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil      | Soil      |
| Date digested                   | -     | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10  | 10/05/10  |
| Date analysed                   | -     | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10  | 11/05/10  |
| Arsenic                         | mg/kg | 9          | 6          | 8          | 8         | 5         |
| Cadmium                         | mg/kg | <0.5       | <0.5       | <0.5       | <0.5      | <0.5      |
| Chromium                        | mg/kg | 18         | 15         | 21         | 34        | 14        |
| Copper                          | mg/kg | 26         | 21         | 19         | 28        | 18        |
| Lead                            | mg/kg | 20         | 20         | 24         | 25        | 17        |
| Mercury                         | mg/kg | <0.1       | 0.4        | <0.1       | <0.1      | <0.1      |
| Nickel                          | mg/kg | 9          | 9          | 11         | 19        | 11        |
| Zinc                            | mg/kg | 41         | 110        | 44         | 53        | 53        |
| Acid Extractable metals in soil |       |            |            |            |           |           |
| Our Reference:                  | UNITS | 40662-26   | 40662-27   | 40662-28   | 40662-29  | 40662-30  |
| Your Reference                  |       | BH10-2     | BH11-1     | BH11-2     | BH12-1    | BH12-3    |
| Depth                           |       | 0.3-0.4    | 0.05-0.15  | 0.25-0.35  | 0.05-0.15 | 0.65-0.75 |
| Date Sampled                    |       | 3/05/2010  | 30/04/2010 | 30/04/2010 | 3/05/2010 | 3/05/2010 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil      | Soil      |
| Date digested                   | -     | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10  | 10/05/10  |
| Date analysed                   | -     | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10  | 11/05/10  |
| Arsenic                         | mg/kg | 6          | 8          | 8          | 8         | 6         |
| Cadmium                         | mg/kg | <0.5       | <0.5       | <0.5       | <0.5      | <0.5      |
| Chromium                        | mg/kg | 17         | 20         | 22         | 21        | 8         |
| 0                               |       | 10         | 00         | ~          |           |           |
| Copper                          | mg/kg | 16         | 28         | 24         | 26        | 20        |

<0.1

9

38

<0.1

10

53

<0.1

12

48

<0.1

13

60

<0.1

4

17

Mercury

Nickel

Zinc

mg/kg

mg/kg

mg/kg

| Acid Extractable metals in soil |       |           |           |            |            |           |
|---------------------------------|-------|-----------|-----------|------------|------------|-----------|
| Our Reference:                  | UNITS | 40662-31  | 40662-32  | 40662-33   | 40662-34   | 40662-35  |
| Your Reference                  |       | BHG-2     | BHH-2     | BH13-2     | BH13-3     | BH14-1    |
| Depth                           |       | 0.5-0.6   | 0.5-0.6   | 0.6-0.7    | 1.0-1.1    | 0.1-0.2   |
| Date Sampled                    |       | 3/05/2010 | 3/05/2010 | 29/04/2010 | 29/04/2010 | 29/04/201 |
| Type of sample                  |       | Soil      | Soil      | Soil       | Soil       | Soil      |
| Date digested                   | -     | 10/05/10  | 10/05/10  | 10/05/10   | 10/05/10   | 10/05/10  |
| Date analysed                   | -     | 11/05/10  | 11/05/10  | 11/05/10   | 11/05/10   | 11/05/10  |
| Arsenic                         | mg/kg | 5         | 5         | 9          | 7          | 10        |
| Cadmium                         | mg/kg | <0.5      | <0.5      | <0.5       | <0.5       | <0.5      |
| Chromium                        | mg/kg | 65        | 20        | 21         | 17         | 21        |
| Copper                          | mg/kg | 38        | 24        | 23         | 15         | 21        |
| Lead                            | mg/kg | 16        | 16        | 25         | 13         | 50        |
| Mercury                         | mg/kg | <0.1      | <0.1      | <0.1       | <0.1       | <0.1      |
| Nickel                          | mg/kg | 73        | 15        | 15         | 4          | 18        |
| Zinc                            | mg/kg | 71        | 38        | 39         | 17         | 96        |
| Acid Extractable metals in soil |       |           |           |            |            |           |
| Our Reference:                  | UNITS | 40662-36  | 40662-37  | 40662-38   | 40662-39   | 40662-40  |

| Acid Extractable metals in soli |       |            |            |            |            |            |
|---------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                  | UNITS | 40662-36   | 40662-37   | 40662-38   | 40662-39   | 40662-40   |
| Your Reference                  |       | BH14-2     | BH15-2     | BH16-1     | BHI-1      | BHI-2      |
| Depth                           |       | 0.5-0.6    | 0.3-0.35   | 0.1-0.2    | 0.5-0.6    | 0.9-1.0    |
| Date Sampled                    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil       | Soil       |
| Date digested                   | -     | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10   |
| Date analysed                   | -     | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10   |
| Arsenic                         | mg/kg | 6          | 8          | 22         | <4         | 5          |
| Cadmium                         | mg/kg | <0.5       | <0.5       | <0.5       | <0.5       | <0.5       |
| Chromium                        | mg/kg | 12         | 17         | 12         | 12         | 18         |
| Copper                          | mg/kg | 18         | 48         | 19         | 87         | 39         |
| Lead                            | mg/kg | 11         | 52         | 23         | 7          | 12         |
| Mercury                         | mg/kg | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Nickel                          | mg/kg | 3          | 28         | 5          | 73         | 37         |
| Zinc                            | mg/kg | 23         | 92         | 58         | 47         | 36         |

| Acid Extractable metals in soil |       |            |            |            |            |
|---------------------------------|-------|------------|------------|------------|------------|
| Our Reference:                  | UNITS | 40662-41   | 40662-42   | 40662-43   | 40662-44   |
| Your Reference                  |       | DUPA       | DUPB       | DUPC       | DUPD       |
| Depth                           |       | -          | -          | -          | -          |
| Date Sampled                    |       | 29/04/2010 | 29/04/2010 | 29/04/2010 | 29/04/2010 |
| Type of sample                  |       | Soil       | Soil       | Soil       | Soil       |
| Date digested                   | -     | 10/05/10   | 10/05/10   | 10/05/10   | 10/05/10   |
| Date analysed                   | -     | 11/05/10   | 11/05/10   | 11/05/10   | 11/05/10   |
| Arsenic                         | mg/kg | 7          | 4          | 5          | 7          |
| Cadmium                         | mg/kg | <0.5       | <0.5       | <0.5       | <0.5       |
| Chromium                        | mg/kg | 16         | 17         | 13         | 17         |
| Copper                          | mg/kg | 22         | 42         | 20         | 17         |
| Lead                            | mg/kg | 12         | 19         | 19         | 15         |
| Mercury                         | mg/kg | <0.1       | <0.1       | 0.4        | <0.1       |
| Nickel                          | mg/kg | 6          | 19         | 9          | 8          |
| Zinc                            | mg/kg | 21         | 62         | 97         | 32         |

| [                              |       | 1                  |                    |                    |                   | 1                      |
|--------------------------------|-------|--------------------|--------------------|--------------------|-------------------|------------------------|
| Moisture                       |       |                    |                    |                    |                   |                        |
| Our Reference:                 | UNITS | 40662-1            | 40662-2            | 40662-3            | 40662-4           | 40662-5                |
| Your Reference                 |       | BH1-2              | BH2-1              | BH2-2              | BH3-1             | BH4-1                  |
| Depth                          |       | 0.25-0.35          | 0.05-0.15          | 0.6-0.7            | 0.0-0.1           | 0.05-0.15              |
| Date Sampled                   |       | 30/04/2010         | 30/04/2010         | 30/04/2010         | 29/04/2010        | 29/04/2010             |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil              | Soil                   |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Moisture                       | %     | 6.4                | 4.6                | 10                 | 8.7               | 10                     |
|                                |       |                    |                    |                    |                   |                        |
| Moisture                       |       |                    |                    |                    |                   |                        |
| Our Reference:                 | UNITS | 40662-6            | 40662-7            | 40662-8            | 40662-9           | 40662-10               |
| Your Reference                 |       | BH4-2              | BH5-1              | BH6-1              | BH7-1             | BH7-2                  |
| Depth                          |       | 0.4-0.5            | 0.15-0.25          | 0.1-0.2            | 0.05-0.15         | 0.5-0.6                |
| Date Sampled                   |       | 29/04/2010         | 29/04/2010         | 29/04/2010         | 30/04/2010        | 30/04/2010             |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil              | Soil                   |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Moisture                       | %     | 16                 | 6.9                | 7.8                | 6.9               | 6.7                    |
|                                |       |                    |                    |                    |                   | I                      |
| Moisture                       |       |                    |                    |                    |                   |                        |
| Our Reference:                 | UNITS | 40662-11           | 40662-12           | 40662-13           | 40662-14          | 40662-15               |
| Your Reference                 |       | BHA-1              | BHA-2              | BHB-1              | BHB-3             | BHC-1                  |
| Depth                          |       | 0.11-0.2           | 0.5-0.6            | 0.5-0.6            | 1.5-1.6           | 0.3-0.5                |
| Date Sampled                   |       | 3/05/2010          | 3/05/2010          | 30/04/2010         | 30/04/2010        | 3/05/2010              |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil              | Soil                   |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Moisture                       | %     | 12                 | 11                 | 7.8                | 21                | 8.6                    |
|                                |       |                    |                    |                    |                   |                        |
| Moisture                       |       |                    |                    |                    |                   |                        |
| Our Reference:                 | UNITS | 40662-16           | 40662-17           | 40662-18           | 40662-19          | 40662-20               |
| Your Reference                 |       | BHC-2              | BHD-2              | BHD-3              | BHE-2             | BHF-1                  |
| Depth                          |       | 0.9-1.0            | 0.5-0.6            | 0.9-1.0            | 0.5-0.6           | 0.1-0.2                |
| Date Sampled                   |       | 3/05/2010          | 3/05/2010          | 3/05/2010          | 3/05/2010         | 30/04/2010             |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil              | Soil                   |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10            | 7/5/10                 |
| Moisture                       | %     | 18                 | 6.9                | 13                 | 11                | 11                     |
| NA_iab                         |       |                    |                    |                    |                   |                        |
| Moisture                       |       | 40000 04           | 40000 00           | 40000.00           | 40000 04          | 40000.05               |
| Our Reference:                 | UNITS | 40662-21           | 40662-22           | 40662-23           | 40662-24          | 40662-25               |
| Your Reference                 |       | BHF-3              | BH8-1              | BH8-3              | BH9-2             | BH10-1                 |
| Danih                          |       | 0.9-1.0            | 0.0-0.1            | 0.5-0.6            | 0.25-0.35         | 0.05-0.15<br>3/05/2010 |
| Depth                          |       |                    | 20/04/2040         | 00/04/0040         |                   |                        |
| Date Sampled                   |       | 30/04/2010         | 30/04/2010<br>Soil | 30/04/2010<br>Soil | 3/05/2010<br>Soil |                        |
| Date Sampled<br>Type of sample |       | 30/04/2010<br>Soil | Soil               | Soil               | Soil              | Soil                   |
| Date Sampled                   |       | 30/04/2010         |                    |                    |                   |                        |
| Date Sampled<br>Type of sample |       | 30/04/2010<br>Soil | Soil               | Soil               | Soil              | Soil                   |

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| Moisture                       |       |                    |                    |                    |                    |            |
|--------------------------------|-------|--------------------|--------------------|--------------------|--------------------|------------|
| Our Reference:                 | UNITS | 40662-26           | 40662-27           | 40662-28           | 40662-29           | 40662-30   |
| Your Reference                 |       | BH10-2             | BH11-1             | BH11-2             | BH12-1             | BH12-3     |
| Depth                          |       | 0.3-0.4            | 0.05-0.15          | 0.25-0.35          | 0.05-0.15          | 0.65-0.75  |
| Date Sampled                   |       | 3/05/2010          | 30/04/2010         | 30/04/2010         | 3/05/2010          | 3/05/2010  |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil               | Soil       |
| Date prepared                  |       | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
|                                | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
| Date analysed                  | -     |                    |                    |                    |                    |            |
| Moisture                       | %     | 12                 | 11                 | 9.8                | 8.6                | 14         |
| Moisture                       |       |                    |                    |                    |                    |            |
| Our Reference:                 | UNITS | 40662-31           | 40662-32           | 40662-33           | 40662-34           | 40662-35   |
| Your Reference                 |       | BHG-2              | BHH-2              | BH13-2             | BH13-3             | BH14-1     |
| Depth                          |       | 0.5-0.6            | 0.5-0.6            | 0.6-0.7            | 1.0-1.1            | 0.1-0.2    |
| Date Sampled                   |       | 3/05/2010          | 3/05/2010          | 29/04/2010         | 29/04/2010         | 29/04/2010 |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil               | Soil       |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
| Moisture                       | %     | 8.6                | 10                 | 7.7                | 17                 | 12         |
|                                |       |                    |                    |                    |                    |            |
| Moisture                       |       |                    |                    |                    |                    |            |
| Our Reference:                 | UNITS | 40662-36           | 40662-37           | 40662-38           | 40662-39           | 40662-40   |
| Your Reference                 |       | BH14-2             | BH15-2             | BH16-1             | BHI-1              | BHI-2      |
| Depth                          |       | 0.5-0.6            | 0.3-0.35           | 0.1-0.2            | 0.5-0.6            | 0.9-1.0    |
| Date Sampled                   |       | 29/04/2010         | 29/04/2010         | 29/04/2010         | 29/04/2010         | 29/04/2010 |
| Type of sample                 |       | Soil               | Soil               | Soil               | Soil               | Soil       |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10     |
| Moisture                       | %     | 17                 | 19                 | 20                 | 13                 | 23         |
| Meiatura                       |       |                    |                    |                    |                    |            |
| Moisture                       |       | 40660.44           | 40660 40           | 40660 40           | 40660 44           |            |
| Our Reference:                 | UNITS | 40662-41           | 40662-42           | 40662-43           | 40662-44           |            |
| Your Reference                 |       | DUPA               | DUPB               | DUPC               | DUPD               |            |
| Depth                          |       | -                  | -                  | -                  | -                  |            |
| Date Sampled<br>Type of sample |       | 29/04/2010<br>Soil | 29/04/2010<br>Soil | 29/04/2010<br>Soil | 29/04/2010<br>Soil |            |
|                                |       |                    |                    |                    |                    | _          |
| Date prepared                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             |            |
| Date analysed                  | -     | 7/5/10             | 7/5/10             | 7/5/10             | 7/5/10             |            |
| Moisture                       | %     | 17                 | 6.9                | 6.3                | 11                 |            |

| ESP/CEC                   |          |           |            |           |            |
|---------------------------|----------|-----------|------------|-----------|------------|
| Our Reference:            | UNITS    | 40662-18  | 40662-22   | 40662-30  | 40662-40   |
| Your Reference            |          | BHD-3     | BH8-1      | BH12-3    | BHI-2      |
| Depth                     |          | 0.9-1.0   | 0.0-0.1    | 0.65-0.75 | 0.9-1.0    |
| Date Sampled              |          | 3/05/2010 | 30/04/2010 | 3/05/2010 | 29/04/2010 |
| Type of sample            |          | Soil      | Soil       | Soil      | Soil       |
| Exchangeable Ca*          | meq/100g | 5.0       | 9.5        | 2.0       | 7.1        |
| Exchangeable K*           | meq/100g | 0.42      | 0.41       | 0.49      | 0.33       |
| Exchangeable Mg*          | meq/100g | 11        | 1.9        | 11        | 6.0        |
| Exchangeable Na*          | meq/100g | 3.8       | 0.17       | 6.9       | 3.2        |
| Cation Exchange Capacity* | meq/100g | 20        | 12         | 21        | 17         |

2



|                     |       | 1                                                        | 1                                                        |                                                          |                                                          | 1                                                                     |
|---------------------|-------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------|
| Asbestos ID - soils |       |                                                          |                                                          |                                                          |                                                          |                                                                       |
| Our Reference:      | UNITS | 40662-1                                                  | 40662-2                                                  | 40662-4                                                  | 40662-7                                                  | 40662-11                                                              |
| Your Reference      |       | BH1-2                                                    | BH2-1                                                    | BH3-1                                                    | BH5-1                                                    | BHA-1                                                                 |
| Depth               |       | 0.25-0.35                                                | 0.05-0.15                                                | 0.0-0.1                                                  | 0.15-0.25                                                | 0.11-0.2                                                              |
| Date Sampled        |       | 30/04/2010                                               | 30/04/2010                                               | 29/04/2010                                               | 29/04/2010                                               | 3/05/2010                                                             |
| Type of sample      | _     | Soil                                                     | Soil                                                     | Soil                                                     | Soil                                                     | Soil                                                                  |
| Date analysed       | -     | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                               |
| Sample Description  | -     | Approx 25g<br>Soil & Rocks                               | Approx 30g<br>Soil                                       | Approx 30g<br>Soil                                       | Approx 30g<br>Soil                                       | Approx 25g<br>Soil                                                    |
| Asbestos ID in soil | -     | No asbestos<br>found at<br>reporting limit<br>of 0.1g/kg | Chrysotile<br>asbestos<br>detected<br>Amosite<br>asbestos<br>detected |
| Trace Analysis      | -     | Respirable<br>fibres not<br>detected                                  |
|                     |       |                                                          | 1                                                        |                                                          |                                                          | 1                                                                     |
| Asbestos ID - soils |       | 40000 17                                                 | 40000.00                                                 | 40000 01                                                 | 40000 07                                                 | 10000 01                                                              |
| Our Reference:      | UNITS | 40662-15                                                 | 40662-20                                                 | 40662-24                                                 | 40662-27                                                 | 40662-31                                                              |
| Your Reference      |       | BHC-1                                                    | BHF-1                                                    | BH9-2                                                    | BH11-1                                                   | BHG-2                                                                 |
| Depth               |       | 0.3-0.5                                                  | 0.1-0.2                                                  | 0.25-0.35                                                | 0.05-0.15                                                | 0.5-0.6                                                               |
| Date Sampled        |       | 3/05/2010                                                | 30/04/2010                                               | 3/05/2010                                                | 30/04/2010                                               | 3/05/2010                                                             |
| Type of sample      |       | Soil                                                     | Soil                                                     | Soil                                                     | Soil                                                     | Soil                                                                  |
| Date analysed       | -     | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                               |
| Sample Description  | -     | Approx 20g<br>Soil & Stones                              | Approx 40g<br>Soil                                       | Approx 25g<br>Soil                                       | Approx 35g<br>Soil                                       | Approx 25g<br>Soil & Stones                                           |
| Asbestos ID in soil | -     | No asbestos<br>found at<br>reporting limit<br>of 0.1g/kg              |
| Trace Analysis      | -     | Respirable<br>fibres not<br>detected                                  |
| Asbestos ID - soils |       |                                                          |                                                          |                                                          | ]                                                        |                                                                       |
| Our Reference:      | UNITS | 40662-35                                                 | 40662-37                                                 | 40662-39                                                 |                                                          |                                                                       |
| Your Reference      |       | BH14-1                                                   | BH15-2                                                   | BHI-1                                                    |                                                          |                                                                       |
| Depth               |       | 0.1-0.2                                                  | 0.3-0.35                                                 | 0.5-0.6                                                  |                                                          |                                                                       |
| Date Sampled        |       | 29/04/2010                                               | 29/04/2010                                               | 29/04/2010                                               |                                                          |                                                                       |
| Type of sample      |       | Soil                                                     | Soil                                                     | Soil                                                     |                                                          |                                                                       |
| Date analysed       | -     | 10/5/10                                                  | 10/5/10                                                  | 10/5/10                                                  | -1                                                       |                                                                       |
| Sample Description  | -     | Approx 30g                                               | Approx 30g                                               | Approx 25g                                               |                                                          |                                                                       |
|                     |       | Soil & Rocks                                             | Soil & Rocks                                             | Soil & Rocks                                             |                                                          |                                                                       |
| Asbestos ID in soil | -     | No asbestos<br>found at<br>reporting limit<br>of 0.1g/kg | No asbestos<br>found at<br>reporting limit<br>of 0.1g/kg | No asbestos<br>found at<br>reporting limit<br>of 0.1g/kg |                                                          |                                                                       |
| Trace Analysis      | -     | Respirable<br>fibres not<br>detected                     | Respirable<br>fibres not<br>detected                     | Respirable<br>fibres not<br>detected                     |                                                          |                                                                       |

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### Client Reference: 107622059, Penrith

| Vethod ID           | Methodology Summary                                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GC.16               | Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.<br>Water samples are analysed directly by purge and trap GC-MS. |
| GC.3                | Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.                                                            |
| GC.12 subset        | Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.                                                             |
| GC-5                | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.                                                |
| GC-6                | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.                                                            |
| LAB.1               | pH - Measured using pH meter and electrode in accordance with APHA 20th ED, 4500-H+.                                                                                       |
| LAB.2               | Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA2510 20th ED and Rayment & Higginson.                           |
| LAB.81              | Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 21st ED, 4110-B.                                                                  |
| Metals.20<br>CP-AES | Determination of various metals by ICP-AES.                                                                                                                                |
| Metals.21<br>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.                                                                                              |
| Metals.23           | Determination of exchangeable cations and cation exchange capacity in soil.                                                                                                |
| ASB.1               | Asbestos ID - Qualitative identification of asbestos type fibres in bulk samples using Polarised Light<br>Microscopy and Dispersion Staining Techniques.                   |



### Client Reference: 107622059, Penrith

| QUALITY CONTROL                   | UNITS | PQL | METHOD | Blank   | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|-----------------------------------|-------|-----|--------|---------|---------------|---------------------------|-----------|---------------------|
| vTPH & BTEX in Soil               |       |     |        |         |               | Base II Duplicate II %RPD |           |                     |
| Date extracted                    | -     |     |        | 7/5/10  | 40662-1       | 7/5/10    7/5/10          | LCS-2     | 7/5/10              |
| Date analysed                     | -     |     |        | 11/5/10 | 40662-1       | 10/5/10    10/5/10        | LCS-2     | 10/5/10             |
| vTPH C6 - C9                      | mg/kg | 25  | GC.16  | <25     | 40662-1       | <25    <25                | LCS-2     | 122%                |
| Benzene                           | mg/kg | 0.5 | GC.16  | <0.5    | 40662-1       | <0.5    <0.5              | LCS-2     | 94%                 |
| Toluene                           | mg/kg | 0.5 | GC.16  | <0.5    | 40662-1       | <0.5    <0.5              | LCS-2     | 129%                |
| Ethylbenzene                      | mg/kg | 1   | GC.16  | <1.0    | 40662-1       | <1.0    <1.0              | LCS-2     | 113%                |
| m+p-xylene                        | mg/kg | 2   | GC.16  | <2.0    | 40662-1       | <2.0    <2.0              | LCS-2     | 137%                |
| o-Xylene                          | mg/kg | 1   | GC.16  | <1.0    | 40662-1       | <1.0    <1.0              | LCS-2     | 139%                |
| Surrogate<br>aaa-Trifluorotoluene | %     |     | GC.16  | 111     | 40662-1       | 107    114    RPD: 6      | LCS-2     | 116%                |

| QUALITY CONTROL          | UNITS | PQL | METHOD | Blank          | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|--------------------------|-------|-----|--------|----------------|---------------|---------------------------|-----------|---------------------|
| sTPH in Soil (C10-C36)   |       |     |        |                |               | Base II Duplicate II %RPD |           |                     |
| Date extracted           | -     |     |        | 07/05/2<br>010 | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| Date analysed            | -     |     |        | 07/05/2<br>010 | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| TPH C10 - C14            | mg/kg | 50  | GC.3   | <50            | 40662-1       | <50    <50                | LCS-2     | 72%                 |
| TPH C15 - C28            | mg/kg | 100 | GC.3   | <100           | 40662-1       | <100    <100              | LCS-2     | 76%                 |
| TPH C29 - C36            | mg/kg | 100 | GC.3   | <100           | 40662-1       | <100    <100              | LCS-2     | 76%                 |
| Surrogate<br>o-Terphenyl | %     |     | GC.3   | 79             | 40662-1       | 79    76    RPD: 4        | LCS-2     | 86%                 |

| QUALITY CONTROL | UNITS | PQL | METHOD          | Blank          | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|-----------------|-------|-----|-----------------|----------------|---------------|---------------------------|-----------|---------------------|
| PAHs in Soil    |       |     |                 |                |               | Base II Duplicate II %RPD |           |                     |
| Date extracted  | -     |     |                 | 07/05/2<br>010 | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| Date analysed   | -     |     |                 | 07/05/2<br>010 | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| Naphthalene     | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 115%                |
| Acenaphthylene  | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Acenaphthene    | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Fluorene        | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 113%                |
| Phenanthrene    | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 118%                |
| Anthracene      | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Fluoranthene    | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 112%                |
| Pyrene          | mg/kg | 0.1 | GC.12<br>subset | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 119%                |

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| QUALITY CONTROL                                 | UNITS | PQL  | METHOD          | Blank | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|-------------------------------------------------|-------|------|-----------------|-------|---------------|---------------------------|-----------|---------------------|
| PAHs in Soil                                    |       |      |                 |       |               | Base II Duplicate II %RPD |           |                     |
| Benzo(a)anthracene                              | mg/kg | 0.1  | GC.12<br>subset | <0.1  | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Chrysene                                        | mg/kg | 0.1  | GC.12<br>subset | <0.1  | 40662-1       | <0.1    <0.1              | LCS-2     | 113%                |
| Benzo(b+k)fluoranthene                          | mg/kg | 0.2  | GC.12<br>subset | <0.2  | 40662-1       | <0.2    <0.2              | [NR]      | [NR]                |
| Benzo(a)pyrene                                  | mg/kg | 0.05 | GC.12<br>subset | <0.05 | 40662-1       | <0.05    <0.05            | LCS-2     | 117%                |
| Indeno(1,2,3-c,d)pyrene                         | mg/kg | 0.1  | GC.12<br>subset | <0.1  | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Dibenzo(a,h)anthracene                          | mg/kg | 0.1  | GC.12<br>subset | <0.1  | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Benzo(g,h,i)perylene                            | mg/kg | 0.1  | GC.12<br>subset | <0.1  | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| <i>Surrogate</i><br>p-Terphenyl-d <sub>14</sub> | %     |      | GC.12<br>subset | 84    | 40662-1       | 117    106    RPD: 10     | LCS-2     | 1119                |

| QUALITY CONTROL                      | UNITS | PQL | METHOD | Blank          | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|--------------------------------------|-------|-----|--------|----------------|---------------|---------------------------|-----------|---------------------|
| Organochlorine<br>Pesticides in soil |       |     |        |                |               | Base II Duplicate II %RPD |           | Recovery            |
| Date extracted                       | -     |     |        | 07/05/2        | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| Date analysed                        | -     |     |        | 07/05/2<br>010 | 40662-1       | 07/05/2010    07/05/2010  | LCS-2     | 07/05/2010          |
| HCB                                  | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| alpha-BHC                            | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 116%                |
| gamma-BHC                            | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| beta-BHC                             | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 114%                |
| Heptachlor                           | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 98%                 |
| delta-BHC                            | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Aldrin                               | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 118%                |
| Heptachlor Epoxide                   | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 123%                |
| gamma-Chlordane                      | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| alpha-chlordane                      | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Endosulfan I                         | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| pp-DDE                               | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 122%                |
| Dieldrin                             | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 127%                |
| Endrin                               | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 106%                |
| pp-DDD                               | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 130%                |
| Endosulfan II                        | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| pp-DDT                               | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Endrin Aldehyde                      | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Endosulfan Sulphate                  | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | LCS-2     | 119%                |
| Methoxychlor                         | mg/kg | 0.1 | GC-5   | <0.1           | 40662-1       | <0.1    <0.1              | [NR]      | [NR]                |
| Surrogate TCLMX                      | %     |     | GC-5   | 95             | 40662-1       | 125    117    RPD: 7      | LCS-2     | 118%                |

Envirolab Reference: Revision No:



### Client Reference: 107622059, Penrith

| QUALITY CONTROL                           | UNITS    | PQL | METHOD               | Blank          | Duplicate Sm#      | Duplicate results         | Spike Sm#    | Spike %             |
|-------------------------------------------|----------|-----|----------------------|----------------|--------------------|---------------------------|--------------|---------------------|
|                                           |          |     |                      |                |                    |                           |              | Recovery            |
| PCBs in Soil                              |          |     |                      |                |                    | Base II Duplicate II %RPD |              |                     |
| Date extracted                            | -        |     |                      | 07/05/2<br>010 | 40662-1            | 07/05/2010    07/05/2010  | LCS-2        | 07/05/2010          |
| Date analysed                             | -        |     |                      | 07/05/2<br>010 | 40662-1            | 07/05/2010    07/05/2010  | LCS-2        | 07/05/2010          |
| Arochlor 1016                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Arochlor 1221*                            | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Arochlor 1232                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Arochlor 1242                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Arochlor 1248                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Arochlor 1254                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | LCS-2        | 102%                |
| Arochlor 1260                             | mg/kg    | 0.1 | GC-6                 | <0.1           | 40662-1            | <0.1    <0.1              | [NR]         | [NR]                |
| Surrogate TCLMX                           | %        |     | GC-6                 | 95             | 40662-1            | 125    117    RPD: 7      | LCS-2        | 90%                 |
|                                           |          | DOL | METHOD               | Disala         | Duralia ata Ora II | Dura lisa ta na sulta     | On its Ore # | Orailar Of          |
| QUALITY CONTROL                           | UNITS    | PQL | METHOD               | Blank          | Duplicate Sm#      | Duplicate results         | Spike Sm#    | Spike %<br>Recovery |
| Miscellaneous Inorg - soil                |          |     |                      |                |                    | Base II Duplicate II %RPD |              |                     |
| Date prepared                             | -        |     |                      | 7/5/10         | [NT]               | [NT]                      | LCS-1        | 7/5/10              |
| Date analysed                             | -        |     |                      | 7/5/10         | [NT]               | [NT]                      | LCS-1        | 7/5/10              |
| pH 1:5 soil:water                         | pH Units |     | LAB.1                | [NT]           | [NT]               | [NT]                      | LCS-1        | 99%                 |
| Electrical Conductivity<br>1:5 soil:water | µS/cm    | 1   | LAB.2                | <1.0           | [NT]               | [NT]                      | LCS-1        | 101%                |
| Chloride, Cl 1:5<br>soil:water            | mg/kg    | 2   | LAB.81               | <2.0           | [NT]               | [NT]                      | LCS-1        | 88%                 |
| Sulphate, SO4 1:5<br>soil:water           | mg/kg    | 2   | LAB.81               | <2.0           | [NT]               | [NT]                      | LCS-1        | 93%                 |
| QUALITY CONTROL                           |          | DOI | METHOD               | Blank          | Duplicate Sm#      | Duplicate regulta         | Spike Sm#    | Spiles 9/           |
| QUALITY CONTROL                           | UNITS    | PQL | METHOD               | Blank          | Duplicate Sm#      | Duplicate results         | Spike Sm#    | Spike %<br>Recovery |
| Acid Extractable metals<br>in soil        |          |     |                      |                |                    | Base II Duplicate II %RPD |              |                     |
| Date digested                             | -        |     |                      | 10/05/1<br>0   | 40662-1            | 10/05/10    10/05/10      | LCS-1        | 10/05/10            |
| Date analysed                             | -        |     |                      | 11/05/1<br>0   | 40662-1            | 11/05/10    11/05/10      | LCS-1        | 11/05/10            |
| Arsenic                                   | mg/kg    | 4   | Metals.20<br>ICP-AES | <4             | 40662-1            | 5    <4                   | LCS-1        | 106%                |
| Cadmium                                   | mg/kg    | 0.5 | Metals.20<br>ICP-AES | <0.5           | 40662-1            | <0.5    <0.5              | LCS-1        | 102%                |
| Chromium                                  | mg/kg    | 1   | Metals.20<br>ICP-AES | <1             | 40662-1            | 17    14    RPD: 19       | LCS-1        | 104%                |
| Copper                                    | mg/kg    | 1   | Metals.20<br>ICP-AES | <1             | 40662-1            | 21    20    RPD: 5        | LCS-1        | 106%                |
| Lead                                      | mg/kg    | 1   | Metals.20<br>ICP-AES | <1             | 40662-1            | 14    15    RPD: 7        | LCS-1        | 102%                |
| Mercury                                   | mg/kg    | 0.1 | Metals.21<br>CV-AAS  | <0.1           | 40662-1            | <0.1    <0.1              | LCS-1        | 100%                |
| Nickel                                    | mg/kg    | 1   | Metals.20<br>ICP-AES | <1             | 40662-1            | 14    11    RPD: 24       | LCS-1        | 105%                |

Envirolab Reference: Revision No:



|                                 |       | Clie | ent Reference        | ce: 1( | 07622059, Pen | rith                      |           |                     |
|---------------------------------|-------|------|----------------------|--------|---------------|---------------------------|-----------|---------------------|
| QUALITY CONTROL                 | UNITS | PQL  | METHOD               | Blank  | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
| Acid Extractable metals in soil |       |      |                      |        |               | Base II Duplicate II %RPD |           |                     |
| Zinc                            | mg/kg | 1    | Metals.20<br>ICP-AES | <1     | 40662-1       | 43    31    RPD: 32       | LCS-1     | 106%                |

| QUALITY CONTROL<br>Moisture | UNITS | PQL | METHOD | Blank  |
|-----------------------------|-------|-----|--------|--------|
| Date prepared               | -     |     |        | 7/5/10 |
| Date analysed               | -     |     |        | 7/5/10 |
| Moisture                    | %     | 0.1 | LAB.8  | <0.10  |

| QUALITY CONTROL              | UNITS        | PQL  | METHOD    | Blank | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|------------------------------|--------------|------|-----------|-------|---------------|---------------------------|-----------|---------------------|
| ESP/CEC                      |              |      |           |       |               | Base II Duplicate II %RPD |           |                     |
| Exchangeable Ca*             | meq/100<br>g | 0.01 | Metals.23 | <0.01 | 40662-18      | 5.0    5.4    RPD: 8      | LCS-1     | 97%                 |
| Exchangeable K*              | meq/100<br>g | 0.01 | Metals.23 | <0.01 | 40662-18      | 0.42    0.42    RPD: 0    | LCS-1     | 110%                |
| Exchangeable Mg*             | meq/100<br>g | 0.01 | Metals.23 | <0.01 | 40662-18      | 11    11    RPD: 0        | LCS-1     | 94%                 |
| Exchangeable Na*             | meq/100<br>g | 0.01 | Metals.23 | <0.01 | 40662-18      | 3.8    3.9    RPD: 3      | LCS-1     | 108%                |
| Cation Exchange<br>Capacity* | meq/100<br>g | 1    | Metals.23 | <1.0  | 40662-18      | 20    21    RPD: 5        | [NR]      | [NR]                |

| QUALITY CONTROL<br>Asbestos ID - soils   | UNITS | PQL | METHOD   | Blank |                               |           |                  |
|------------------------------------------|-------|-----|----------|-------|-------------------------------|-----------|------------------|
| Date analysed                            | -     |     |          | [NT]  |                               |           |                  |
| QUALITY CONTROL<br>vTPH & BTEX in Soil   | UNIT  | S   | Dup. Sm# |       | Duplicate<br>Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date extracted                           | -     |     | 40662-11 | 7/5   | /10    7/5/10                 | LCS-3     | 7/5/10           |
| Date analysed                            | -     |     | 40662-11 | 10/5  | /10    10/5/10                | LCS-3     | 11/5/10          |
| vTPH C6 - C9                             | mg/k  | g   | 40662-11 | <     | <25    <25                    | LCS-3     | 114%             |
| Benzene                                  | mg/k  | g   | 40662-11 | <     | 0.5    <0.5                   | LCS-3     | 95%              |
| Toluene                                  | mg/k  | g   | 40662-11 | <     | 0.5    <0.5                   | LCS-3     | 136%             |
| Ethylbenzene                             | mg/k  | g   | 40662-11 | <     | 1.0    <1.0                   | LCS-3     | 114%             |
| m+p-xylene                               | mg/k  | g   | 40662-11 | <     | 2.0    <2.0                   | LCS-3     | 112%             |
| o-Xylene                                 | mg/k  | g   | 40662-11 | <     | 1.0    <1.0                   | LCS-3     | 113%             |
| <i>Surrogate</i><br>aaa-Trifluorotoluene | %     |     | 40662-11 | 113   | 120    RPD: 6                 | LCS-3     | 117%             |

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| QUALITY CONTROL              | UNITS | Dup. Sm# | Duplicate                | Spike Sm# | Spike % Recovery |
|------------------------------|-------|----------|--------------------------|-----------|------------------|
| sTPH in Soil (C10-C36)       |       |          | Base + Duplicate + %RPD  | -1        |                  |
| Date extracted               | -     | 40662-11 | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| Date analysed                | -     | 40662-11 | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| TPH C10 - C14                | mg/kg | 40662-11 | <50    <50               | LCS-3     | 68%              |
| TPH C15 - C28                | mg/kg | 40662-11 | <100    <100             | LCS-3     | 76%              |
| TPH C29 - C36                | mg/kg | 40662-11 | <100    <100             | LCS-3     | 77%              |
| Surrogate o-Terphenyl        | %     | 40662-11 | 85    85    RPD: 0       | LCS-3     | 86%              |
| QUALITY CONTROL              | UNITS | Dup. Sm# | Duplicate                | Spike Sm# | Spike % Recovery |
| PAHs in Soil                 |       |          | Base + Duplicate + %RPD  |           |                  |
| Date extracted               | -     | 40662-11 | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| Date analysed                | -     | 40662-11 | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| Naphthalene                  | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 113%             |
| Acenaphthylene               | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Acenaphthene                 | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Fluorene                     | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 111%             |
| Phenanthrene                 | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 117%             |
| Anthracene                   | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Fluoranthene                 | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 110%             |
| Pyrene                       | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 118%             |
| Benzo(a)anthracene           | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Chrysene                     | mg/kg | 40662-11 | <0.1    <0.1             | LCS-3     | 112%             |
| Benzo(b+k)fluoranthene       | mg/kg | 40662-11 | <0.2    <0.2             | [NR]      | [NR]             |
| Benzo(a)pyrene               | mg/kg | 40662-11 | <0.05    <0.05           | LCS-3     | 114%             |
| Indeno(1,2,3-c,d)pyrene      | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Dibenzo(a,h)anthracene       | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Benzo(g,h,i)perylene         | mg/kg | 40662-11 | <0.1    <0.1             | [NR]      | [NR]             |
| Surrogate<br>p-Terphenyl-d14 | %     | 40662-11 | 114    111    RPD: 3     | LCS-3     | 108%             |



|                                                         |       | Client Reference | ce: 107622059, Penrit                | h         |                  |
|---------------------------------------------------------|-------|------------------|--------------------------------------|-----------|------------------|
| QUALITY CONTROL<br>Organochlorine Pesticides<br>in soil | UNITS | Dup. Sm#         | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date extracted                                          | -     | 40662-11         | 07/05/2010    07/05/2010             | LCS-3     | 07/05/2010       |
| Date analysed                                           | -     | 40662-11         | 07/05/2010    07/05/2010             | LCS-3     | 07/05/2010       |
| НСВ                                                     | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-BHC                                               | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 124%             |
| gamma-BHC                                               | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| beta-BHC                                                | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 109%             |
| Heptachlor                                              | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 100%             |
| delta-BHC                                               | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| Aldrin                                                  | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 119%             |
| Heptachlor Epoxide                                      | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 109%             |
| gamma-Chlordane                                         | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-chlordane                                         | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan I                                            | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDE                                                  | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 107%             |
| Dieldrin                                                | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 128%             |
| Endrin                                                  | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 110%             |
| pp-DDD                                                  | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 120%             |
| Endosulfan II                                           | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDT                                                  | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| Endrin Aldehyde                                         | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan Sulphate                                     | mg/kg | 40662-11         | <0.1    <0.1                         | LCS-3     | 111%             |
| Methoxychlor                                            | mg/kg | 40662-11         | <0.1    <0.1                         | [NR]      | [NR]             |
| Surrogate TCLMX                                         | %     | 40662-11         | 117    120    RPD: 3                 | LCS-3     | 140%             |



|                                          |       | Client Referen | ce: 107622059, Penrith   | า         |                  |
|------------------------------------------|-------|----------------|--------------------------|-----------|------------------|
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| PCBs in Soil                             |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted                           | -     | 40662-11       | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| Date analysed                            | -     | 40662-11       | 07/05/2010    07/05/2010 | LCS-3     | 07/05/2010       |
| Arochlor 1016                            | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1221*                           | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1232                            | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1242                            | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1248                            | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1254                            | mg/kg | 40662-11       | <0.1    <0.1             | LCS-3     | 108%             |
| Arochlor 1260                            | mg/kg | 40662-11       | <0.1    <0.1             | [NR]      | [NR]             |
| Surrogate TCLMX                          | %     | 40662-11       | 117    120    RPD: 3     | LCS-3     | 88%              |
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recover  |
| Acid Extractable metals in soil          |       |                | Base + Duplicate + %RPD  |           |                  |
|                                          |       |                |                          |           |                  |
| Date digested                            | -     | 40662-11       | 10/05/10    10/05/10     | LCS-2     | 10/05/10         |
| Date analysed                            | -     | 40662-11       | 11/05/10    11/05/10     | LCS-2     | 11/05/10         |
| Arsenic                                  | mg/kg | 40662-11       | 7    7    RPD: 0         | LCS-2     | 105%             |
| Cadmium                                  | mg/kg | 40662-11       | <0.5    <0.5             | LCS-2     | 105%             |
| Chromium                                 | mg/kg | 40662-11       | 19    18    RPD: 5       | LCS-2     | 107%             |
| Copper                                   | mg/kg | 40662-11       | 83    67    RPD: 21      | LCS-2     | 107%             |
| Lead                                     | mg/kg | 40662-11       | 29    27    RPD: 7       | LCS-2     | 102%             |
| Mercury                                  | mg/kg | 40662-11       | <0.1    <0.1             | LCS-2     | 98%              |
| Nickel                                   | mg/kg | 40662-11       | 16    14    RPD: 13      | LCS-2     | 105%             |
| Zinc                                     | mg/kg | 40662-11       | 94    81    RPD: 15      | LCS-2     | 105%             |
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recover  |
| vTPH & BTEX in Soil                      |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted                           | -     | 40662-21       | 7/5/10    7/5/10         | 40662-2   | 7/5/10           |
| Date analysed                            | -     | 40662-21       | 10/5/10    10/5/10       | 40662-2   | 11/5/10          |
| vTPH C6 - C9                             | mg/kg | 40662-21       | <25    <25               | 40662-2   | 125%             |
| Benzene                                  | mg/kg | 40662-21       | <0.5    <0.5             | 40662-2   | 101%             |
| Toluene                                  | mg/kg | 40662-21       | <0.5    <0.5             | 40662-2   | 131%             |
| Ethylbenzene                             | mg/kg | 40662-21       | <1.0    <1.0             | 40662-2   | 122%             |
| m+p-xylene                               | mg/kg | 40662-21       | <2.0    <2.0             | 40662-2   | 136%             |
| o-Xylene                                 | mg/kg | 40662-21       | <1.0    <1.0             | 40662-2   | 132%             |
| <i>Surrogate</i><br>aaa-Trifluorotoluene | %     | 40662-21       | 119    115    RPD: 3     | 40662-2   | 124%             |



|                              |       | Client Referer | nce: 107622059, Penrith  | 1         |                  |
|------------------------------|-------|----------------|--------------------------|-----------|------------------|
| QUALITY CONTROL              | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| sTPH in Soil (C10-C36)       |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted               | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| Date analysed                | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| TPH C10 - C14                | mg/kg | 40662-21       | <50    <50               | 40662-2   | 116%             |
| TPH C15 - C28                | mg/kg | 40662-21       | <100    <100             | 40662-2   | 136%             |
| TPH C29 - C36                | mg/kg | 40662-21       | <100    <100             | 40662-2   | 136%             |
| Surrogate o-Terphenyl        | %     | 40662-21       | 94    96    RPD: 2       | 40662-2   | 72%              |
| QUALITY CONTROL              | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| PAHs in Soil                 |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted               | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| Date analysed                | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| Naphthalene                  | mg/kg | 40662-21       | <0.1    <0.1             | 40662-2   | 113%             |
| Acenaphthylene               | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Acenaphthene                 | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Fluorene                     | mg/kg | 40662-21       | <0.1    <0.1             | 40662-2   | 110%             |
| Phenanthrene                 | mg/kg | 40662-21       | <0.1    0.1              | 40662-2   | 113%             |
| Anthracene                   | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Fluoranthene                 | mg/kg | 40662-21       | 0.1    0.1    RPD: 0     | 40662-2   | 108%             |
| Pyrene                       | mg/kg | 40662-21       | 0.1    0.1    RPD: 0     | 40662-2   | 114%             |
| Benzo(a)anthracene           | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Chrysene                     | mg/kg | 40662-21       | <0.1    <0.1             | 40662-2   | 104%             |
| Benzo(b+k)fluoranthene       | mg/kg | 40662-21       | <0.2    <0.2             | [NR]      | [NR]             |
| Benzo(a)pyrene               | mg/kg | 40662-21       | <0.05    <0.05           | 40662-2   | 111%             |
| Indeno(1,2,3-c,d)pyrene      | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Dibenzo(a,h)anthracene       | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Benzo(g,h,i)perylene         | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Surrogate<br>p-Terphenyl-d14 | %     | 40662-21       | 117    108    RPD: 8     | 40662-2   | 107%             |



|                                                         |       | <b>Client Referen</b> | ce: 107622059, Penrit                | h         |                  |
|---------------------------------------------------------|-------|-----------------------|--------------------------------------|-----------|------------------|
| QUALITY CONTROL<br>Organochlorine Pesticides<br>in soil | UNITS | Dup. Sm#              | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date extracted                                          | -     | 40662-21              | 07/05/2010    07/05/2010             | 40662-2   | 07/05/2010       |
| Date analysed                                           | -     | 40662-21              | 07/05/2010    07/05/2010             | 40662-2   | 07/05/2010       |
| НСВ                                                     | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-BHC                                               | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 114%             |
| gamma-BHC                                               | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| beta-BHC                                                | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 115%             |
| Heptachlor                                              | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 110%             |
| delta-BHC                                               | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| Aldrin                                                  | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 116%             |
| Heptachlor Epoxide                                      | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 121%             |
| gamma-Chlordane                                         | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-chlordane                                         | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan I                                            | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDE                                                  | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 121%             |
| Dieldrin                                                | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 126%             |
| Endrin                                                  | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 112%             |
| pp-DDD                                                  | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 128%             |
| Endosulfan II                                           | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDT                                                  | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| Endrin Aldehyde                                         | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan Sulphate                                     | mg/kg | 40662-21              | <0.1    <0.1                         | 40662-2   | 118%             |
| Methoxychlor                                            | mg/kg | 40662-21              | <0.1    <0.1                         | [NR]      | [NR]             |
| Surrogate TCLMX                                         | %     | 40662-21              | 130    133    RPD: 2                 | 40662-2   | 113%             |



|                                          |       | Client Referen | ce: 107622059, Penrith   | ı         |                  |
|------------------------------------------|-------|----------------|--------------------------|-----------|------------------|
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| PCBs in Soil                             |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted                           | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| Date analysed                            | -     | 40662-21       | 07/05/2010    07/05/2010 | 40662-2   | 07/05/2010       |
| Arochlor 1016                            | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1221*                           | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1232                            | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1242                            | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1248                            | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Arochlor 1254                            | mg/kg | 40662-21       | <0.1    <0.1             | 40662-2   | 106%             |
| Arochlor 1260                            | mg/kg | 40662-21       | <0.1    <0.1             | [NR]      | [NR]             |
| Surrogate TCLMX                          | %     | 40662-21       | 130    133    RPD: 2     | 40662-2   | 94%              |
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recover  |
| Acid Extractable metals in soil          |       |                | Base + Duplicate + %RPD  |           |                  |
|                                          |       |                |                          |           |                  |
| Date digested                            | -     | 40662-21       | 10/05/10    10/05/10     | LCS-3     | 10/05/10         |
| Date analysed                            | -     | 40662-21       | 11/05/10    11/05/10     | LCS-3     | 11/05/10         |
| Arsenic                                  | mg/kg | 40662-21       | 9    9    RPD: 0         | LCS-3     | 105%             |
| Cadmium                                  | mg/kg | 40662-21       | <0.5    <0.5             | LCS-3     | 102%             |
| Chromium                                 | mg/kg | 40662-21       | 18    18    RPD: 0       | LCS-3     | 104%             |
| Copper                                   | mg/kg | 40662-21       | 26    26    RPD: 0       | LCS-3     | 107%             |
| Lead                                     | mg/kg | 40662-21       | 20    20    RPD: 0       | LCS-3     | 102%             |
| Mercury                                  | mg/kg | 40662-21       | <0.1    <0.1             | LCS-3     | 96%              |
| Nickel                                   | mg/kg | 40662-21       | 9    9    RPD: 0         | LCS-3     | 108%             |
| Zinc                                     | mg/kg | 40662-21       | 41    38    RPD: 8       | LCS-3     | 106%             |
| QUALITY CONTROL                          | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recover  |
| vTPH & BTEX in Soil                      |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted                           | -     | 40662-31       | 7/5/10    7/5/10         | 40662-22  | 7/5/10           |
| Date analysed                            | -     | 40662-31       | 10/5/10    10/5/10       | 40662-22  | 11/5/10          |
| vTPH C6 - C9                             | mg/kg | 40662-31       | <25    <25               | 40662-22  | 115%             |
| Benzene                                  | mg/kg | 40662-31       | <0.5    <0.5             | 40662-22  | 93%              |
| Toluene                                  | mg/kg | 40662-31       | <0.5    <0.5             | 40662-22  | 136%             |
| Ethylbenzene                             | mg/kg | 40662-31       | <1.0    <1.0             | 40662-22  | 117%             |
| m+p-xylene                               | mg/kg | 40662-31       | <2.0    <2.0             | 40662-22  | 115%             |
| o-Xylene                                 | mg/kg | 40662-31       | <1.0    <1.0             | 40662-22  | 112%             |
| <i>Surrogate</i><br>aaa-Trifluorotoluene | %     | 40662-31       | 118    119    RPD: 1     | 40662-22  | 133%             |



|                              |       | Client Referen | ce: 107622059, Penrith   | ı         |                  |
|------------------------------|-------|----------------|--------------------------|-----------|------------------|
| QUALITY CONTROL              | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| sTPH in Soil (C10-C36)       |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted               | -     | 40662-31       | 07/05/2010    07/05/2010 | 40662-22  | 07/05/2010       |
| Date analysed                | -     | 40662-31       | 07/05/2010    07/05/2010 | 40662-22  | 07/05/2010       |
| TPH C10 - C14                | mg/kg | 40662-31       | <50    <50               | 40662-22  | 69%              |
| TPH C15 - C28                | mg/kg | 40662-31       | <100    <100             | 40662-22  | 98%              |
| TPH C29 - C36                | mg/kg | 40662-31       | <100    <100             | 40662-22  | 95%              |
| Surrogate o-Terphenyl        | %     | 40662-31       | 89    93    RPD: 4       | 40662-22  | 85%              |
| QUALITY CONTROL              | UNITS | Dup. Sm#       | Duplicate                | Spike Sm# | Spike % Recovery |
| PAHs in Soil                 |       |                | Base + Duplicate + %RPD  |           |                  |
| Date extracted               | -     | 40662-31       | 07/05/2010    07/05/2010 | 40662-22  | 07/05/2010       |
| Date analysed                | -     | 40662-31       | 07/05/2010    07/05/2010 | 40662-22  | 07/05/2010       |
| Naphthalene                  | mg/kg | 40662-31       | <0.1    <0.1             | 40662-22  | 115%             |
| Acenaphthylene               | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Acenaphthene                 | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Fluorene                     | mg/kg | 40662-31       | <0.1    <0.1             | 40662-22  | 113%             |
| Phenanthrene                 | mg/kg | 40662-31       | 0.1    0.1    RPD: 0     | 40662-22  | 116%             |
| Anthracene                   | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Fluoranthene                 | mg/kg | 40662-31       | <0.1    <0.1             | 40662-22  | 113%             |
| Pyrene                       | mg/kg | 40662-31       | <0.1    <0.1             | 40662-22  | 119%             |
| Benzo(a)anthracene           | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Chrysene                     | mg/kg | 40662-31       | <0.1    <0.1             | 40662-22  | 107%             |
| Benzo(b+k)fluoranthene       | mg/kg | 40662-31       | <0.2    <0.2             | [NR]      | [NR]             |
| Benzo(a)pyrene               | mg/kg | 40662-31       | <0.05    <0.05           | 40662-22  | 117%             |
| Indeno(1,2,3-c,d)pyrene      | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Dibenzo(a,h)anthracene       | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Benzo(g,h,i)perylene         | mg/kg | 40662-31       | <0.1    <0.1             | [NR]      | [NR]             |
| Surrogate<br>p-Terphenyl-d14 | %     | 40662-31       | 114    106    RPD: 7     | 40662-22  | 109%             |



|                                                         |       | <b>Client Reference</b> | ce: 107622059, Penrit                | h         |                  |
|---------------------------------------------------------|-------|-------------------------|--------------------------------------|-----------|------------------|
| QUALITY CONTROL<br>Organochlorine Pesticides<br>in soil | UNITS | Dup. Sm#                | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date extracted                                          | -     | 40662-31                | 07/05/2010    07/05/2010             | 40662-22  | 07/05/2010       |
| Date analysed                                           | -     | 40662-31                | 07/05/2010    07/05/2010             | 40662-22  | 07/05/2010       |
| НСВ                                                     | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-BHC                                               | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 108%             |
| gamma-BHC                                               | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| beta-BHC                                                | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 101%             |
| Heptachlor                                              | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 110%             |
| delta-BHC                                               | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| Aldrin                                                  | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 108%             |
| Heptachlor Epoxide                                      | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 111%             |
| gamma-Chlordane                                         | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| alpha-chlordane                                         | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan I                                            | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDE                                                  | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 99%              |
| Dieldrin                                                | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 119%             |
| Endrin                                                  | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 108%             |
| pp-DDD                                                  | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 108%             |
| Endosulfan II                                           | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| pp-DDT                                                  | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| Endrin Aldehyde                                         | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| Endosulfan Sulphate                                     | mg/kg | 40662-31                | <0.1    <0.1                         | 40662-22  | 105%             |
| Methoxychlor                                            | mg/kg | 40662-31                | <0.1    <0.1                         | [NR]      | [NR]             |
| Surrogate TCLMX                                         | %     | 40662-31                | 122    129    RPD: 6                 | 40662-22  | 125%             |



|                                                       |       | Client Reference | ce: 107622059, Penrith               | า         |                  |
|-------------------------------------------------------|-------|------------------|--------------------------------------|-----------|------------------|
| QUALITY CONTROL<br>PCBs in Soil                       | UNITS | Dup. Sm#         | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date extracted                                        | -     | 40662-31         | 07/05/2010    07/05/2010             | 40662-22  | 07/05/2010       |
| Date analysed                                         | -     | 40662-31         | 07/05/2010    07/05/2010             | 40662-22  | 07/05/2010       |
| Arochlor 1016                                         | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Arochlor 1221*                                        | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Arochlor 1232                                         | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Arochlor 1242                                         | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Arochlor 1248                                         | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Arochlor 1254                                         | mg/kg | 40662-31         | <0.1    <0.1                         | 40662-22  | 100%             |
| Arochlor 1260                                         | mg/kg | 40662-31         | <0.1    <0.1                         | [NR]      | [NR]             |
| Surrogate TCLMX                                       | %     | 40662-31         | 122    129    RPD: 6                 | 40662-22  | 82%              |
| QUALITY CONTROL<br>Acid Extractable metals in<br>soil | UNITS | Dup. Sm#         | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date digested                                         | -     | 40662-31         | 10/05/10    10/05/10                 | 40662-2   | 10/05/10         |
| Date analysed                                         | -     | 40662-31         | 11/05/10    11/05/10                 | 40662-2   | 11/05/10         |
| Arsenic                                               | mg/kg | 40662-31         | 5    5    RPD: 0                     | 40662-2   | 111%             |
| Cadmium                                               | mg/kg | 40662-31         | <0.5    <0.5                         | 40662-2   | 102%             |
| Chromium                                              | mg/kg | 40662-31         | 65    64    RPD: 2                   | 40662-2   | 100%             |
| Copper                                                | mg/kg | 40662-31         | 38    38    RPD: 0                   | 40662-2   | 108%             |
| Lead                                                  | mg/kg | 40662-31         | 16    15    RPD: 6                   | 40662-2   | 98%              |
| Mercury                                               | mg/kg | 40662-31         | <0.1    <0.1                         | 40662-2   | 78%              |
| Nickel                                                | mg/kg | 40662-31         | 73    71    RPD: 3                   | 40662-2   | 105%             |
| Zinc                                                  | mg/kg | 40662-31         | 71    54    RPD: 27                  | 40662-2   | 102%             |
| QUALITY CONTROL<br>Acid Extractable metals in<br>soil | UNITS | Dup. Sm#         | Duplicate<br>Base + Duplicate + %RPD | Spike Sm# | Spike % Recovery |
| Date digested                                         | -     | [NT]             | [NT]                                 | 40662-22  | 10/05/10         |
| Date analysed                                         | -     | [NT]             | [NT]                                 | 40662-22  | 11/05/10         |
| Arsenic                                               | mg/kg | [NT]             | [NT]                                 | 40662-22  | 110%             |
| Cadmium                                               | mg/kg | [NT]             | [NT]                                 | 40662-22  | 104%             |
| Chromium                                              | mg/kg | [NT]             | [NT]                                 | 40662-22  | 106%             |
| Copper                                                | mg/kg | [NT]             | [NT]                                 | 40662-22  | 117%             |
| Lead                                                  | mg/kg | [NT]             | [NT]                                 | 40662-22  | 102%             |
| Mercury                                               | mg/kg | [NT]             | [NT]                                 | 40662-22  | 86%              |
| Nickel                                                | mg/kg | [NT]             | [NT]                                 | 40662-22  | 108%             |
| Zinc                                                  | mg/kg | [NT]             | [NT]                                 | 40662-22  | 109%             |

Envirolab Reference: 40662 **Revision No:** 



### **Report Comments:**

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 30-40g of sample in it's own container.

Sample 11; Chrysotile & amosite found embedded in several fragments of fibre cement (total weight 0.031g). It is estimated that plaster or fibre cement sheet can contain up to 15% chrysotile & amosite asbestos fibres by weight. This gives up to 0.0046g of chrysotile & amosite fibres, which in 25g of soil gives 0.185g/kg. Asbestos was analysed by Approved Identifier: Matt Mansfield Asbestos was authorised by Approved Signatory: Matt Mansfield INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than **RPD: Relative Percent Difference** LCS: Laboratory Control Sample NA: Test not required 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



SAMPLE CHAIN OF CUSTODY DOCUMENTATION

|                                             |                                                                                             | ACOWE   <br>48hrs   <br>5 Days   <br>DISK                                | Stand<br>Date Requ<br>EMAIL | Crister Bars                                  | BULLETIN BOARD                          |                 |                                              | 124 Pac<br>Projeci |                                         | CLATES P<br>Fay, Green<br>FT:                                                                                   |                                                 | <u>, lp</u>                               | he                              | -<br>                           |              |                    | Phone:<br>Fax<br>Hevien edit<br>Pholocy<br>IS REQU | : (02) 94       | 178 3900                                           | I           | Emzil:       |                                           |                                          | ociate<br>ociate | es<br>er.com         |
|---------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------|-----------------------------------------------|-----------------------------------------|-----------------|----------------------------------------------|--------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------|---------------------------------|---------------------------------|--------------|--------------------|----------------------------------------------------|-----------------|----------------------------------------------------|-------------|--------------|-------------------------------------------|------------------------------------------|------------------|----------------------|
| Comments/Special Instru<br>G 1<br>H5<br>HAB | PDF<br>ctions: licase prov<br>clder will ac<br>be a malyse<br>clowing revis<br>SAMPLE<br>ID | excel<br>vide per<br>vide per<br>vide per<br>d for<br>et of se<br>sample | m 53<br>TCLP<br>stid/tok    | ESDAT<br>DSts if<br>iamp le<br>analy<br>21 am | applicate<br>s<br>, te s<br>(ysis resul | NTAINERS        | Level of Contamination<br>(Low/High/Unknown) | Ha                 | Metals (A1, Cd, Cr, Cu, Ph. Ni, Zn, Hg) | C <sub>e</sub> -C <sub>ie</sub> Total Petroleum Bydrocarbous<br>(TPN)                                           | ssere. Tolares. Ethytheascare, Nytene<br>(BTEN) | relycychic Arematic Hydrocarbens<br>(PAH) | Organochlorine Pesticides (OCP) | Polychiorinated biphenyls (PCB) | TCLP for PAB | TCLP for Metals    | Cyanide                                            | Phenals (total) | Electrical conductivity $\mathcal{E}_{\mathbf{C}}$ |             | fsbestos     |                                           | Sulfate                                  | hloride.         | han Exchange         |
| ID ID                                       | ID                                                                                          | DEPTH                                                                    | DATE                        | TYPE                                          | MATRIX                                  | ů,              | Level<br>(Low/I                              | ×                  | Neta                                    | 3                                                                                                               | ž,                                              | 2                                         | ō                               | -/                              |              |                    | •                                                  |                 | ×                                                  |             |              |                                           | ×                                        | y<br>X           | કુ૭                  |
| <u>l</u>                                    | BH1-2                                                                                       | 0.25-0.35                                                                | 30/04/2010                  | DS                                            | FILL                                    | 1               |                                              | _                  | V,                                      |                                                                                                                 |                                                 | K.                                        | 4                               | 4                               |              |                    |                                                    |                 |                                                    |             |              |                                           |                                          |                  | 4                    |
| <u> </u>                                    | BH2-1                                                                                       | 0.05-0.15                                                                | 30/04/2010                  | DS                                            | FILL                                    |                 |                                              | ·                  | 4                                       |                                                                                                                 | Ιv                                              | 1×-                                       | 4                               | <u> </u>                        |              |                    |                                                    |                 |                                                    |             |              | $\vdash$                                  |                                          |                  |                      |
| 3                                           | BH2-2                                                                                       | 0.6-0.7                                                                  | 30/04/2010                  | DS                                            | SOIL                                    |                 |                                              | <b>I</b>           | V,                                      |                                                                                                                 | 4                                               | V V                                       | Ľ                               | 4                               |              |                    |                                                    |                 |                                                    |             |              | <b>  </b>                                 |                                          |                  |                      |
| <u> </u>                                    | BH3-1                                                                                       | 0.0-0.1                                                                  | 29/04/2010                  | DS                                            | FILL                                    | <u>     </u>    |                                              | <u> </u>           | V                                       | <u> </u>                                                                                                        | <b> </b> →                                      | $\bigvee$                                 | 4                               |                                 |              |                    |                                                    |                 |                                                    |             | $\checkmark$ | $\vdash$                                  |                                          |                  | 4                    |
| 5                                           | BH4-1                                                                                       | 0.05-0.15                                                                | 29/04/2010                  | DS                                            | FILL                                    |                 |                                              |                    | 4                                       | 1 v                                                                                                             | 1. J                                            | <i>i</i> /,/                              | Ľ,                              | V,                              |              |                    |                                                    |                 |                                                    |             |              | $\square$                                 |                                          |                  |                      |
| 6                                           | BH4-2                                                                                       | 0.4-0.5                                                                  | 29/04/2010                  | DS                                            | FILL                                    |                 |                                              |                    | V                                       | V /                                                                                                             |                                                 | Ľ,                                        | 4                               | 4                               |              |                    |                                                    |                 |                                                    |             |              | E H                                       |                                          |                  |                      |
|                                             | BH5-1                                                                                       | 0.15-0.25                                                                | 29/04/2010                  | DS                                            | FILL                                    |                 |                                              |                    | 1                                       |                                                                                                                 | 4                                               | V                                         | 4                               |                                 | <u> </u>     |                    |                                                    |                 |                                                    |             | $\square$    | $\vdash$                                  |                                          |                  |                      |
| 8                                           | BH6-1                                                                                       | 0.1-0.2                                                                  | 29/04/2010                  | ÐS                                            | FILL                                    |                 |                                              |                    | V                                       |                                                                                                                 |                                                 |                                           |                                 |                                 |              |                    |                                                    |                 |                                                    |             |              | $\square$                                 |                                          |                  |                      |
| 9                                           | BH7-1                                                                                       | 0.05-0.15                                                                | 30/04/2010                  | DS                                            | FILL                                    | 1               |                                              |                    | V.                                      | V.                                                                                                              |                                                 |                                           |                                 |                                 |              |                    |                                                    |                 |                                                    |             |              | $\square$                                 |                                          |                  | 11                   |
| 10                                          | BH7-2                                                                                       | 0.5-0.6                                                                  | 30/04/2010                  | DS                                            | SOIL                                    | 1               |                                              |                    | $\checkmark$                            | 1                                                                                                               | Ľ,                                              |                                           |                                 | <u>/</u>                        |              |                    |                                                    |                 |                                                    |             |              |                                           |                                          |                  |                      |
| <u>}1</u>                                   | BHA-1                                                                                       | 0.11-0.2                                                                 | 3/05/2010                   | DS                                            | FILL                                    |                 |                                              |                    | <u> </u>                                |                                                                                                                 |                                                 |                                           | $ \mathcal{L} $                 | 4                               |              |                    | -                                                  |                 |                                                    |             |              | $\square$                                 |                                          |                  | +                    |
| 12                                          | BHA-2                                                                                       | 0.5-0.6                                                                  | 3/05/2010                   | DS                                            | FILL                                    |                 |                                              |                    | 14                                      | ·/-                                                                                                             | 4                                               | Ľ~                                        |                                 | 14                              |              |                    |                                                    |                 |                                                    |             |              |                                           |                                          |                  | <b></b>              |
| 13                                          | ВНВ-1                                                                                       | 0.5-0.6                                                                  | 30/04/2010                  | DS                                            | FILL                                    |                 |                                              |                    | 1                                       |                                                                                                                 |                                                 |                                           | 4                               | 14                              |              |                    |                                                    |                 |                                                    |             |              | $\vdash$                                  |                                          |                  | <b></b>              |
| 14                                          | BHB-3                                                                                       | 1.5-1.6                                                                  | 30/04/2010                  | DS                                            | FILL                                    | ┟┼╴┨            |                                              | <u> </u>           | <u> </u>                                | <u> </u>                                                                                                        | 1                                               | 1./                                       |                                 | 1                               |              |                    |                                                    |                 |                                                    | ┝──┤        |              |                                           |                                          |                  | <b>∔</b> —- <b>I</b> |
| 15                                          | BHC-1                                                                                       | 0.3-0.5                                                                  | 3/05/2010                   | DS                                            | FILL                                    | <u>├</u>        |                                              | -                  | 1.                                      | · ⁄                                                                                                             | Ľ,                                              | ⊬≁                                        | ГУ                              | Ť                               | <u> </u>     | ┝──┦               |                                                    |                 |                                                    | ┝──╁        |              | ┟╌╴┦                                      |                                          |                  | <mark>┼</mark> ╶┨    |
| 16                                          | BHC-2                                                                                       | 0.9-1.0                                                                  | 3/05/2010                   | DS                                            | FILL                                    | 44.224.52000000 |                                              | 9 88387488         | 1362538                                 | a da antes de la compañía de la comp | 15 2.27                                         | Handona                                   | Rinners                         | 1943-300                        | 0.96976      | NAMES OF A         |                                                    | 69 (MIC)        | 111/2020                                           | sall Prints |              | SADAR                                     | 967 A.S.                                 | 19-27-W          | 21 79451332          |
| Schuld offenter a Therefore                 | 医膀胱管理 化丙酮                                                                                   | ં સ્વયતાં સ                                                              | ·李·马·吕                      |                                               | 行动性的行行                                  | 41. 16.2.2      | 臺灣的                                          |                    | 1 Ale                                   |                                                                                                                 |                                                 | a le le                                   |                                 |                                 |              |                    |                                                    |                 |                                                    |             |              | 和特                                        |                                          | - <b>1</b> 4 - 1 |                      |
| SAMDI E MATDIN                              | il/Sediment/Fill/Water/Other                                                                | na na mini ana mini ang mini pangangan ka                                | a mana manangkan karistan   | SAMELE TRA                                    | E = Composite(C)/Disc                   | natal DOVIN     | wheely DOVA                                  | ConstOre           | ) Cert 0                                | unnle /C*                                                                                                       |                                                 | RICH.                                     | CONCE                           | NTPAT                           | 10N          | vie ernes          | ted param                                          | a second second | nalveie fi                                         | et          |              |                                           |                                          |                  |                      |
| onate de pira e Rea = 300                   | SIGNATURE                                                                                   |                                                                          | COMP                        |                                               | DATE                                    | TIME            | urucu(DS) <sup>n</sup>                       | LOIGUK             | ), orad S                               | anpic (US                                                                                                       | -                                               | TURE                                      | CONC                            | ausat                           | sont di      | ске ехрас<br>СОМРА |                                                    | ierera un a     | DATE                                               | _           | TIME         |                                           | Met                                      | hod of Shig      | oment                |
| RELEASED BY                                 | Blu                                                                                         |                                                                          |                             |                                               |                                         |                 | 0                                            | 851 Ø              | ASED B                                  | v                                                                                                               |                                                 |                                           |                                 |                                 |              |                    |                                                    |                 |                                                    |             |              | الأدارين                                  | Shipping                                 |                  |                      |
| RECEIVED BY                                 | Juliana Lumm                                                                                | ertz.                                                                    | ELS                         |                                               | ks.6/5/10<br>515/10                     | Jo~             |                                              | 1                  | IVED B                                  |                                                                                                                 |                                                 |                                           |                                 |                                 |              |                    | •                                                  |                 |                                                    |             |              | 1                                         | Chais                                    | woodiA           | ×327                 |
| RELEASED BY                                 |                                                                                             |                                                                          |                             |                                               |                                         |                 |                                              |                    |                                         |                                                                                                                 |                                                 |                                           |                                 | ្មនេះ ខណ្ឌម្នាល<br>រ            |              |                    |                                                    | arsen yn        |                                                    | 5.5.1       |              |                                           |                                          |                  |                      |
|                                             | ł                                                                                           |                                                                          |                             |                                               | 1                                       |                 |                                              | 國際                 | ir dineş                                |                                                                                                                 | h.e.                                            | an third a                                | 7.4                             | ie - Linne                      | v sus        | stats i sta        | i den s                                            | Sec. 351        | terta                                              |             | 1. K.S. 52   | n pin in                                  | de si fr                                 | 3 . S            | 科建筑                  |
| RECEIVED BY                                 |                                                                                             |                                                                          |                             |                                               |                                         |                 | •                                            |                    |                                         | 13/01                                                                                                           |                                                 | COLLEGE<br>COLLEGE                        | 極勢                              |                                 | 7K 3         |                    |                                                    | Sec.            | i ce si ce i                                       |             |              | ar an | o an | 3 811 1          |                      |
| RELEASED BY                                 |                                                                                             |                                                                          | ļ                           |                                               |                                         | ļ               |                                              |                    |                                         |                                                                                                                 |                                                 |                                           | <b>1</b> 64                     | ie Tre                          |              |                    |                                                    |                 | -<br>198-54                                        |             |              |                                           | 10                                       |                  |                      |
| ECEIVED BY                                  |                                                                                             |                                                                          |                             |                                               |                                         |                 |                                              | quel               |                                         | STATES                                                                                                          |                                                 | <b>Fait</b>                               | S and                           | il care                         |              |                    |                                                    |                 |                                                    |             |              |                                           |                                          |                  |                      |

THIS FORM IS TO BE SIGNED BY GOLDER STAFF; COURIER/S; LABORATORY ON RECEIPT OF SAMPLES.

•

sheet 1 of 3

|                                                                       |                               |                     |                         |                                                          |                    | Sa              | mp                                         | le          | C                                         | hai                                       | M                                                   | of                                        | Û                                  | isto                               | dy           | D              | 001                                   | im                       | enta                      | tim                      |             | f                           | )age                | 2.0                      |
|-----------------------------------------------------------------------|-------------------------------|---------------------|-------------------------|----------------------------------------------------------|--------------------|-----------------|--------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------|-------------------------------------------|------------------------------------|------------------------------------|--------------|----------------|---------------------------------------|--------------------------|---------------------------|--------------------------|-------------|-----------------------------|---------------------|--------------------------|
| rroject Nation<br>Self Location<br>Senset Try<br>Terrorities 1 terror |                               |                     | BC<br>Stan              | Lab Time<br>Quarte Re<br>Order res<br>dard 23<br>dard 23 | Em                 | ivolat          |                                            | GOLDER      | ASSOCIATI<br>Highway, G<br>anager:        | ES PTY LTI                                | D                                                   |                                           |                                    | ni                                 |              |                | Phone:<br>Fax<br>Reviewed:<br>Plasne) | : (02) 947<br>: (02) 947 | 8 3900                    |                          | <b>A</b> g  | older<br>sociat             | ies                 | <u> </u>                 |
|                                                                       | HARD 🗍 FAX 🗌                  | ] DISK 🗌<br>EXCEL 🗍 | EMAIL                   |                                                          | BOLLETIN BO        | ARD             |                                            |             |                                           |                                           |                                                     |                                           |                                    |                                    | A            | NALYSIS        | REQUIRI                               | ED                       |                           |                          |             |                             | <                   | hang                     |
| Comments/Special Inst<br>AS Pag                                       | tructions:                    |                     |                         |                                                          |                    | CONTAINERS      | evel of Contamination<br>Low/High/Unknown) | Ę           | Metab (A., Cd, Cr, Cu,<br>Pb, NI, Za, Hg) | CC., Total Petrokum<br>Hydrocarbous (TPH) | Benzene, Tolnene,<br>Ethytheaarne, Xylene<br>(BTEX) | Polyryckie Aromatie<br>Hydrocarbous (PAH) | Organochiariae<br>Pesticides (OCP) | Polychlorinated<br>biphenyls (PCB) | TCLP for PAH | TCLP for Metab | Cyanide                               | Phenals (total)          | ctrical conductivity      | ABESTOS                  | -           | )(fate<br>i                 | loride              | unon mu                  |
| LAB<br>ID                                                             | SAMPLE<br>ID                  | SAMPLE<br>DEPTH     | SAMPLE<br>DATE          | SAMPLE<br>TYPE                                           | SAMPLE<br>MATRIX   | No C            | Level<br>(Lord                             | 2           | T T                                       | نَّةً نَ<br>الم                           | * <u>*</u>                                          | * <u>}</u>                                |                                    |                                    |              |                |                                       |                          | ×.å                       |                          | <u> </u>    | <u>عملہ</u>                 | <u>77</u>           | <u> </u>                 |
| 17                                                                    | BHD-2                         | 0.5-0.6             | 3/05/2010               | DS                                                       | FILL               |                 |                                            | -/          | V                                         |                                           | 1.<br>V                                             | 4                                         | V                                  | 1                                  |              |                |                                       | ·                        |                           |                          |             | <del>71.</del>              | 7                   | $\overline{\mathcal{A}}$ |
| 18<br>19                                                              | BHD-3                         | 0,9-1,0             | 3/05/2010               | DS                                                       | SOIL.              |                 | <u> </u>                                   |             |                                           | 17                                        | 1                                                   | 5                                         | 1                                  |                                    |              | · · · · ·      |                                       |                          | <b> </b> →  -             |                          |             | <u></u>                     | -+                  | <u> </u>                 |
| 20                                                                    | BHE-2<br>BHF-1                | 0.5-0.6             | 3/05/2010<br>30/04/2010 | DS<br>DS                                                 | FILL               |                 |                                            |             | Ĵ                                         | 1                                         | V                                                   | 1                                         | 1                                  | 1                                  |              |                |                                       |                          |                           |                          |             |                             | -                   |                          |
| 21                                                                    | BHF-3                         | 0.9-1.0             | 30/04/2010              | DS                                                       | SOIL               |                 | <u> </u>                                   |             | T                                         | 1                                         | Ĭ.                                                  | 1                                         |                                    | 1                                  |              |                |                                       | -                        |                           |                          |             |                             |                     | •                        |
| 22                                                                    | BH8-1                         | 0.0-0.1             | 30/04/2010              | DS                                                       | FILL               |                 |                                            |             | $\checkmark$                              |                                           | T                                                   | ラ                                         | J.                                 |                                    |              |                |                                       |                          |                           |                          |             |                             |                     | ~                        |
| 23                                                                    | BH8-3                         | 0.5-0.6             | 30/04/2010              | DS                                                       | SOIL.              |                 |                                            |             | $\checkmark$                              | $\checkmark$                              |                                                     | Z                                         |                                    |                                    |              |                |                                       |                          |                           |                          |             |                             |                     |                          |
| र्वेष                                                                 | BH9-2                         | 0.25-0.35           | 3/05/2010               | DS                                                       | FILL               |                 |                                            |             | $\checkmark$                              |                                           |                                                     |                                           | 1                                  |                                    |              |                |                                       |                          | ļ                         |                          |             | $\perp$                     | $ \rightarrow$      |                          |
| 25                                                                    | BH10-1                        | 0.05-0.15           | 3/05/2010               | DS                                                       | FILL               |                 |                                            |             | 1                                         | 1                                         | $\vee$                                              |                                           |                                    | <b> </b> ✓,                        |              |                |                                       | L                        |                           | _                        |             | $ \rightarrow $             |                     |                          |
| 26                                                                    | BH10-2                        | 0.3-0,4             | 3/05/2010               | DS                                                       | FILL               |                 |                                            |             |                                           |                                           | 1 V                                                 | L/,                                       | <u>/</u>                           |                                    |              |                |                                       |                          |                           | $\rightarrow$            |             |                             | $\rightarrow$       |                          |
| 27                                                                    | BH11-1                        | 0,05-0,15           | 30/04/2010              | DS                                                       | FILL               |                 |                                            |             | 1                                         |                                           | 4                                                   |                                           |                                    |                                    | <u> </u>     | <b> </b>       | ļ                                     | -                        |                           | <b>  ⁄  </b>             |             | <u> </u>                    |                     |                          |
| 28                                                                    | BH11-2                        | 0.25-0.35           | 30/04/2010              | DS                                                       | FILL               |                 |                                            |             | 1                                         | 1                                         |                                                     |                                           | 4                                  | 1                                  |              |                |                                       | <u> </u>                 | +                         |                          | <u> </u>    |                             | $\rightarrow$       |                          |
| 29                                                                    | BH12-1                        | 0.05-0.15           | 3/05/2010               | DS                                                       | FILL .             |                 |                                            |             | 1                                         |                                           | 1                                                   |                                           | 17                                 | ۲ř                                 | <b> </b>     |                |                                       |                          |                           |                          |             | 7+                          | 7                   | $\mathcal{A}$            |
| 30<br>31                                                              | BIII2-3                       | 0.65-0.75           | 3/05/2010               | DS                                                       | SOIL               |                 |                                            | <b> </b> ≁− | Ī                                         | 5                                         | 1                                                   | 17                                        | 17                                 | 1/2                                |              | <b> </b>       | <u> </u>                              |                          | ┟╨┼                       |                          | · / ·       | +                           | <u>۲</u>            | <b>—</b>                 |
| <u> </u>                                                              | BHG-2<br>BHH-2                | 0.5-0.6             | 3/05/2010               | DS<br>DS                                                 | FILL<br>FILL       |                 | ┨                                          |             | Ŭ                                         | 17                                        | 17                                                  |                                           | 1                                  | F/                                 |              | <b> </b>       |                                       | <u> </u>                 |                           |                          |             | -                           |                     | '                        |
|                                                                       |                               | 1 0.3-0.9           |                         | i us<br>Menneths                                         | FILL<br>NGCARAPICE | I<br>SCHOOLSE   |                                            | મ કરવે કાલક | 科学生的                                      | 和政務地                                      | 计划建设                                                |                                           |                                    | a tea ann                          | ed al stat   | (M)(M)         | <b>Restau</b>                         | 网络印度                     |                           | 12380 <b>(</b> 79391/10) | <b>教教学学</b> | anan a                      | MARCEN S            | 國際調                      |
| SAMPLE MATRIX -                                                       | Soit/Sediment/Fill/Water/Othe | я                   |                         | SAMPLE TY                                                | PE = Compositu(C   | C)/Discrete(DC) | /Disturbeal(I                              | DS)/Core(CF | t), Grab Sa                               | nple (GS)                                 |                                                     | нісн со                                   | ONCENTR                            | ATION: cir                         | rele expectu | d parumeter    | s in malysis                          | s list                   |                           |                          |             |                             |                     |                          |
|                                                                       | SIGNATURE                     |                     |                         | PANY                                                     | DATE               | TIME            |                                            | ļ           |                                           |                                           | SIGNAT                                              | URE                                       |                                    |                                    |              | сомра          | NY                                    |                          | DATE                      | TIME                     |             | Method                      | d of Shipm          | ent                      |
| RELEASED BY                                                           | K. Com                        |                     | Cielder                 |                                                          | \$(3(10            | 3:30            |                                            | RELEAS      | ED BY                                     |                                           |                                                     |                                           |                                    |                                    |              | ļ              |                                       |                          |                           | _                        |             | pping ref:                  |                     |                          |
| RECEIVED BY                                                           | JML TH                        | ts_                 | EL                      | <u>ン</u>                                                 | 5/5/10             | 500             | <u>. (</u>                                 | RECEIV      |                                           | - 181 - 144                               |                                                     | and a state of the                        | en let ava                         |                                    | ·静义:"是中化     |                | 879×10103                             |                          |                           |                          |             | 7165940                     |                     | e pression.              |
| RELEASED BY                                                           | <i>(</i> \                    |                     |                         |                                                          |                    |                 |                                            |             | 100                                       | el By A                                   | talytini<br>S                                       | Lebers                                    | nory<br>Talana                     | r the                              |              |                | BOOM STOCK                            | 140                      | Constanting of the second |                          |             |                             |                     |                          |
| RECEIVED BY                                                           |                               |                     |                         |                                                          |                    |                 |                                            |             |                                           | 開き事                                       |                                                     |                                           | Carlos -                           |                                    |              |                |                                       | 15                       |                           |                          |             |                             | hasan di<br>Dalamat |                          |
| RELEASED BY                                                           |                               |                     | +                       |                                                          |                    |                 |                                            |             | 15,965                                    |                                           | 新影                                                  | Contraction of the second                 |                                    |                                    |              |                |                                       | 200                      | 1991 (m. 1997)            |                          |             | SWOOL                       |                     | 5-4-54                   |
| RECEIVED BY                                                           |                               |                     |                         |                                                          | <u> </u>           | · ·             |                                            | 31.00       | Constant,                                 | 动用非常                                      | APPE LAND                                           | the same a                                |                                    | li manara                          | and a second |                | 1.00                                  |                          |                           |                          |             | <u>approximation (* 7 )</u> | (1977)<br>1. 9770   | 新聞が開始                    |

.

NON WELSTIDIERS

Active 40662 Date received: 5/5/10 Time received: 5pm Ruceive 19: JHL Terup: Ce/Amblent Orching: Ce/Amblent Orching: Ce/Lapack

|                                                                  |                                                                  |                 |                          |                                                                   |                  |                  |                                                |            |                                          |                                              |                                                 |                                           |                                           |                                    |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          | Pa                          | ge I         | 3.01         |
|------------------------------------------------------------------|------------------------------------------------------------------|-----------------|--------------------------|-------------------------------------------------------------------|------------------|------------------|------------------------------------------------|------------|------------------------------------------|----------------------------------------------|-------------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------|--------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------|----------|---------------|------------------------------------------|-----------------------------|--------------|--------------|
| Project No:<br>Sile Localine:<br>Sampled By<br>Turburyand<br>The | 1076220<br><u>fennith</u><br><u>Mith Blenn</u><br>24hrs<br>36hrs |                 | C<br>Stan                | Lab Name:<br>Onne Na<br>Order Na<br>Jard X<br>dard X<br>alred By: | Envin            | olab             |                                                |            |                                          |                                              |                                                 | lph                                       | En                                        | <u>v</u> i                         |              | -               | Phone:<br>Fax<br>Reviewed:<br>Phone:                                                                                                                                                                                                 | : (02) 947)<br>: (02) 947) |                                    |          | Emuil:        | Ð                                        | Golde                       |              | -            |
| Didwiry Opflah<br>Report Forwal                                  | HARD 🗆 FAX [                                                     |                 | EMAIL                    | _                                                                 | BULLETIN BO      | DARD 🗌           |                                                |            |                                          |                                              |                                                 |                                           |                                           |                                    | Ļ            | ANALYSIS        | REQUIR                                                                                                                                                                                                                               | ED                         |                                    |          |               |                                          |                             |              | -ge          |
| Comments/Special Ir                                              |                                                                  |                 |                          |                                                                   |                  | CONTAINERS       | Level of Contamination<br>(Low/High/Unitarown) | Ŧ          | talb (Al, Cd, Cr, Ce,<br>Ph. Ni, Za, Hg) | C4-C14 Total Petrokeun<br>Rydrocarboos (TPH) | therace, Telecuc,<br>theracec, Xylenc<br>(BTEX) | Pelycyclic Arematic<br>Hydrecarbeau (PAB) | Organachlarine<br>Pesticides (OCP)        | Palychlarinated<br>biphonyls (PCB) | TCLP &r PAH  | TCLP for Metals | Cymelet                                                                                                                                                                                                                              | Phenois (setal)            | C<br>Electrical conductivity<br>EC |          | ASDESTOS      |                                          | allet.                      | chloride     | Cation Exclo |
| LAB<br>ID                                                        | SAMPLE<br>ID                                                     | SAMPLE<br>DEPTH | SAMPLE<br>DATE           | SAMPLE<br>TYPE                                                    | SAMPLÉ<br>MATRIX | N. CC            | [Level                                         | ×          | <u><u></u></u>                           | U<br>U<br>U                                  |                                                 | Ĩ.                                        | °                                         | • 3                                |              | Ĕ               |                                                                                                                                                                                                                                      |                            | X                                  |          | Æ             |                                          | 13                          | JU.          | E.           |
| 33<br>34<br>35<br>36<br>37<br>38                                 | BH13-2                                                           | 0.6-0.7         | 29/04/2010               | DS                                                                | FILL             |                  |                                                |            | $\downarrow$                             |                                              | ert                                             | $\checkmark$                              | 4                                         | V.                                 |              |                 | -                                                                                                                                                                                                                                    |                            |                                    |          |               |                                          |                             |              | ──           |
| <u> </u>                                                         | BH13-3                                                           | 1.0-1.1         | 29/04/2010               | DS                                                                | SOIL             |                  |                                                | <b> </b>   |                                          | 1                                            | 1                                               | <u> </u>                                  | 5                                         | $\lor$                             |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          |                             |              |              |
| 30                                                               | BH14-1                                                           | 0,1-0,2         | 29/04/2010               | DS                                                                | FILL             |                  |                                                |            |                                          |                                              | 5                                               | V                                         | 57                                        | 7                                  | <u> </u>     |                 |                                                                                                                                                                                                                                      |                            |                                    |          | <u> </u>      | ·                                        |                             | d            |              |
| .12                                                              | BH14-2<br>BH15-2                                                 | 0.5-0.6         | 29/04/2010<br>29-04/2010 | DS<br>DS                                                          | FILL             |                  |                                                |            | ĬŤ                                       | ۲,                                           |                                                 | ./                                        | 17                                        | ĬŤ                                 |              |                 | 1                                                                                                                                                                                                                                    |                            |                                    |          | $\checkmark$  | [                                        |                             |              | <b></b>      |
|                                                                  | BH16-1                                                           | 0.3-0.33        | 29/04/2010               | DS                                                                | FILL             |                  |                                                |            |                                          | Ť                                            | 1                                               | Ĭ,                                        | V,                                        | 7                                  | <u> </u>     |                 |                                                                                                                                                                                                                                      | ŀ                          |                                    |          |               | 2                                        |                             |              |              |
| 39                                                               | BHI-1                                                            | 0.5-0.6         | 29/04/2010               | DS                                                                | FILL             |                  |                                                |            |                                          |                                              | 1                                               | 1                                         |                                           | V.                                 |              | 1               |                                                                                                                                                                                                                                      |                            |                                    |          | $\checkmark$  |                                          |                             |              |              |
| 40                                                               | BHI-2                                                            | 0,9-1,0         | 29/04/2010               | DS                                                                | ડભા.             |                  |                                                |            | <u></u>                                  |                                              |                                                 |                                           |                                           | /                                  |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          |                             |              | $\square$    |
| 41                                                               | DUPA                                                             | -               |                          | DS                                                                | -                |                  |                                                |            |                                          | 1                                            |                                                 | $\checkmark$                              | 1                                         | /                                  |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          |                             |              |              |
| 42                                                               | DUPB                                                             | -               | -                        | DS                                                                | -                |                  |                                                |            |                                          |                                              |                                                 |                                           |                                           |                                    | ļ            |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          |                             |              | <b> </b>     |
| 43                                                               | DUPC                                                             |                 | ļ .                      | DS                                                                | -                |                  |                                                |            | <u>/</u>                                 | Ľ,                                           |                                                 | L                                         | <u> </u>                                  |                                    | ļ            |                 |                                                                                                                                                                                                                                      | <u> </u>                   |                                    |          |               |                                          |                             |              | —            |
| կկ                                                               | DUPD                                                             | -               | -                        | DS                                                                | -                |                  |                                                |            |                                          |                                              |                                                 | $\sim$                                    |                                           |                                    |              | <u> </u>        |                                                                                                                                                                                                                                      |                            |                                    |          |               | · · · · ·                                |                             | <sup> </sup> |              |
|                                                                  |                                                                  |                 |                          |                                                                   |                  |                  |                                                | <b> </b>   |                                          |                                              |                                                 |                                           |                                           |                                    |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               | ·                                        | •                           |              |              |
|                                                                  |                                                                  |                 | 9.25                     |                                                                   |                  | (<br>後末)(2月)     |                                                |            |                                          |                                              | 1993                                            |                                           |                                           | <b>的</b> 激素                        |              |                 |                                                                                                                                                                                                                                      |                            |                                    |          |               |                                          |                             |              | 家政府          |
| SAMPLE MATRIX                                                    | = Soil/Sediment/Fill/Water/Od                                    | har             |                          | SAMPLE TY                                                         | PE = Composite(  | C)/Discrete(DC)/ | /Disturbed(L                                   | JSJ/Core(C | R), Grab Sa                              | inple (GS)                                   |                                                 | HIGH CO                                   | ONCENTR                                   | ATION; ci                          | rele expecte | d parameter     | rs in analys                                                                                                                                                                                                                         | is list                    |                                    |          |               |                                          |                             |              |              |
|                                                                  | SIGNATURE                                                        |                 | сом                      | PANY                                                              | DATE             | TIME             |                                                | Ļ          |                                          |                                              | SIGNAT                                          | IRE                                       |                                           |                                    |              | COMPA           | NY                                                                                                                                                                                                                                   |                            | DATE                               |          | TIME          |                                          | Met.<br>Shipping F          | hod of Ship  | meni         |
| RELEASED BY                                                      | the                                                              |                 |                          | •                                                                 | -                | <u> </u>         |                                                | RELEAS     | ED BY                                    |                                              |                                                 |                                           |                                           |                                    |              |                 |                                                                                                                                                                                                                                      |                            | <u> </u>                           |          |               |                                          | autitized a                 |              | . •          |
| RECEIVED BY                                                      | An                                                               |                 | EL                       | .>                                                                | 5/515            | <u>Sp</u>        | $\sim$                                         | RECEIV     |                                          |                                              |                                                 |                                           | er an | Skier f                            | - HARRING    |                 |                                                                                                                                                                                                                                      |                            | 19.20 <b>19.20</b>                 | 20.000 A | <b>张</b> 博、淡月 |                                          | 104450                      | 79 B. M. W   | <b></b>      |
| RELEASED BY                                                      | +0                                                               |                 | <b> </b>                 |                                                                   |                  | <u> </u>         |                                                |            |                                          |                                              |                                                 | anarisi i<br>Rectinati                    | Linnes                                    |                                    |              |                 | anter en la seconda de la s<br>Nationa de la seconda de la s |                            |                                    | 5.00     |               |                                          | ander de la<br>Norder de la |              |              |
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# CERTIFICATE OF ANALYSIS 40990

107622059, Nepean Hospital

5 Waters

14/05/10

14/05/10

Client: Golder Associates 124 Pacific Highway St Leonards NSW 2065

Attention: Ian McLennan / Ralph Erni / Ben Caruana

### Sample log in details:

Your Reference: No. of samples: Date samples received: Date completed instructions received:

## 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:
 21/05/10

 Date of Preliminary Report:
 Not issued

 Issue Date:
 20/05/10

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 Tests not covered by NATA are denoted with \*.

**Results Approved By:** 

Jacinta/Hurst Laboratory Manager

Envirolab Reference: 40 Revision No: R



| vTPH & BTEX in Water           |       |            |            |            |            |            |
|--------------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:                 | UNITS | 40990-1    | 40990-2    | 40990-3    | 40990-4    | 40990-5    |
| Your Reference                 |       | MW 102     | BH C       | BH F       | BH I       | DUPA       |
| Date Sampled                   |       | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 |
| Type of sample                 |       | Water      | Water      | Water      | Water      | Water      |
| Date extracted                 | -     | 16/5/10    | 16/5/10    | 16/5/10    | 16/5/10    | 16/5/10    |
| Date analysed                  | -     | 16/5/10    | 16/5/10    | 16/5/10    | 16/5/10    | 16/5/10    |
| TPH C6 - C9                    | μg/L  | <10        | <10        | <10        | 45         | 48         |
| Benzene                        | 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       |
| Ethylbenzene                   | μg/L  | <1.0       | <1.0       | <1.0       | 4.4        | 3.8        |
| m+p-xylene                     | μg/L  | 3.0        | <2.0       | <2.0       | 25         | 29         |
| o-xylene                       | µg/L  | 1.2        | <1.0       | <1.0       | 18         | 15         |
| Surrogate Dibromofluoromethane | %     | 128        | 125        | 122        | 127        | 123        |
| Surrogate toluene-d8           | %     | 96         | 97         | 96         | 98         | 95         |
| Surrogate 4-BFB                | %     | 97         | 97         | 97         | 98         | 100        |

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| sTPH in Water (C10-C36) |       |            |            |            |            |            |
|-------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:          | UNITS | 40990-1    | 40990-2    | 40990-3    | 40990-4    | 40990-5    |
| Your Reference          |       | MW 102     | BH C       | BH F       | BH I       | DUPA       |
| Date Sampled            |       | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 |
| Type of sample          |       | Water      | Water      | Water      | Water      | Water      |
| Date extracted          | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| Date analysed           | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| TPH C10 - C14           | μg/L  | <50        | <50        | <50        | 340        | 280        |
| TPH C15 - C28           | µg/L  | <100       | <100       | <100       | <100       | <100       |
| TPH C29 - C36           | µg/L  | <100       | <100       | <100       | <100       | <100       |
| Surrogate o-Terphenyl   | %     | 91         | 97         | 102        | 96         | 97         |

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| PAHs in Water             |       |            |            |            |            |            |
|---------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:            | UNITS | 40990-1    | 40990-2    | 40990-3    | 40990-4    | 40990-5    |
| Your Reference            |       | MW 102     | BH C       | BH F       | BH I       | DUPA       |
| Date Sampled              |       | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 |
| Type of sample            |       | Water      | Water      | Water      | Water      | Water      |
| Date extracted            | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| Date analysed             | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| Naphthalene               | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Acenaphthylene            | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Acenaphthene              | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Fluorene                  | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Phenanthrene              | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Anthracene                | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Fluoranthene              | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Pyrene                    | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Benzo(a)anthracene        | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Chrysene                  | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Benzo(b+k)fluoranthene    | µg/L  | <2         | <2         | <2         | <2         | <2         |
| Benzo(a)pyrene            | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Indeno(1,2,3-c,d)pyrene   | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Dibenzo(a,h)anthracene    | μg/L  | <1         | <1         | <1         | <1         | <1         |
| Benzo(g,h,i)perylene      | μg/L  | <1         | <1         | <1         | <1         | <1         |
| Surrogate p-Terphenyl-d14 | %     | 119        | 125        | 140        | 122        | 126        |



| HM in water - dissolved |       |            |            |            |            |            |
|-------------------------|-------|------------|------------|------------|------------|------------|
| Our Reference:          | UNITS | 40990-1    | 40990-2    | 40990-3    | 40990-4    | 40990-5    |
| Your Reference          |       | MW 102     | BH C       | BH F       | BH I       | DUPA       |
| Date Sampled            |       | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 |
| Type of sample          |       | Water      | Water      | Water      | Water      | Water      |
| Date prepared           | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| Date analysed           | -     | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    | 17/5/10    |
| Arsenic-Dissolved       | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Cadmium-Dissolved       | µg/L  | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Chromium-Dissolved      | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Copper-Dissolved        | µg/L  | 1          | 1          | 2          | 2          | 2          |
| Lead-Dissolved          | µg/L  | <1         | <1         | <1         | <1         | <1         |
| Mercury-Dissolved       | µg/L  | <0.5       | <0.5       | <0.5       | <0.5       | <0.5       |
| Nickel-Dissolved        | μg/L  | 3          | 3          | 9          | 28         | 26         |
| Zinc-Dissolved          | µg/L  | 2          | 2          | 7          | 19         | 17         |



| Miscellaneous Inorganics       |          |            |            |            |            |            |
|--------------------------------|----------|------------|------------|------------|------------|------------|
| Our Reference:                 | UNITS    | 40990-1    | 40990-2    | 40990-3    | 40990-4    | 40990-5    |
| Your Reference                 |          | MW 102     | BH C       | BH F       | BH I       | DUPA       |
| Date Sampled                   |          | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 | 13/05/2010 |
| Type of sample                 |          | Water      | Water      | Water      | Water      | Water      |
| Date prepared                  | -        | 14/5/2010  | 14/5/2010  | 14/5/2010  | 14/5/2010  | [NT]       |
| Date analysed                  | -        | 18/5/2010  | 18/5/2010  | 18/5/2010  | 18/5/2010  | [NT]       |
| рН                             | pH Units | 6.5        | 6.8        | 6.9        | 6.8        | [NT]       |
| <b>Electrical Conductivity</b> | μS/cm    | 25,000     | 27,000     | 25,000     | 31,000     | [NT]       |
| Chloride, Cl                   | mg/L     | 8,000      | 8,600      | 8,400      | 11,000     | [NT]       |
| Sulphate, SO4                  | mg/L     | 1,800      | 1,900      | 1,400      | 1,700      | [NT]       |

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| 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.<br>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.                                                             |
| Metals.22<br>ICP-MS | Determination of various metals by ICP-MS.                                                                                                                                 |
| Metals.21<br>CV-AAS | Determination of Mercury by Cold Vapour AAS.                                                                                                                               |
| LAB.1               | pH - Measured using pH meter and electrode in accordance with APHA 20th ED, 4500-H+.                                                                                       |
| LAB.2               | Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA2510 20th ED and Rayment & Higginson.                           |
| LAB.81              | Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 21st ED, 4110-B.                                                                  |

| QUALITY CONTROL                          | UNITS | PQL | METHOD | Blank   | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|------------------------------------------|-------|-----|--------|---------|---------------|---------------------------|-----------|---------------------|
| vTPH & BTEX in Water                     |       |     |        |         |               | Base II Duplicate II %RPD |           |                     |
| Date extracted                           | -     | 1   |        | 16/5/10 | [NT]          | [NT]                      | LCS-W1    | 16/5/10             |
| Date analysed                            | -     |     |        | 16/5/10 | [NT]          | [NT]                      | LCS-W1    | 16/5/10             |
| TPH C6 - C9                              | µg/L  | 10  | GC.16  | <10     | [NT]          | [NT]                      | LCS-W1    | 103%                |
| Benzene                                  | µg/L  | 1   | GC.16  | <1.0    | [NT]          | [NT]                      | LCS-W1    | 126%                |
| Toluene                                  | µg/L  | 1   | GC.16  | <1.0    | [NT]          | [NT]                      | LCS-W1    | 105%                |
| Ethylbenzene                             | µg/L  | 1   | GC.16  | <1.0    | [NT]          | [NT]                      | LCS-W1    | 97%                 |
| m+p-xylene                               | µg/L  | 2   | GC.16  | <2.0    | [NT]          | [NT]                      | LCS-W1    | 94%                 |
| o-xylene                                 | µg/L  | 1   | GC.16  | <1.0    | [NT]          | [NT]                      | LCS-W1    | 93%                 |
| <i>Surrogate</i><br>Dibromofluoromethane | %     |     | GC.16  | 111     | [NT]          | [NT]                      | LCS-W1    | 126%                |
| Surrogate toluene-d8                     | %     |     | GC.16  | 104     | [NT]          | [NT]                      | LCS-W1    | 102%                |
| Surrogate 4-BFB                          | %     |     | GC.16  | 95      | [NT]          | [NT]                      | LCS-W1    | 91%                 |

| QUALITY CONTROL          | UNITS | PQL | METHOD | Blank   | Duplicate Sm# | Duplicate results         | Spike Sm# | Spike %<br>Recovery |
|--------------------------|-------|-----|--------|---------|---------------|---------------------------|-----------|---------------------|
| sTPH in Water (C10-C36)  |       |     |        |         |               | Base II Duplicate II %RPD |           |                     |
| Date extracted           | -     |     |        | 17/5/10 | [NT]          | [NT]                      | LCS-W1    | 17/5/10             |
| Date analysed            | -     |     |        | 17/5/10 | [NT]          | [NT]                      | LCS-W1    | 17/5/10             |
| TPH C10 - C14            | µg/L  | 50  | GC.3   | <50     | [NT]          | [NT]                      | LCS-W1    | 76%                 |
| TPH C15 - C28            | µg/L  | 100 | GC.3   | <100    | [NT]          | [NT]                      | LCS-W1    | 117%                |
| TPH C29 - C36            | µg/L  | 100 | GC.3   | <100    | [NT]          | [NT]                      | LCS-W1    | 91%                 |
| Surrogate<br>o-Terphenyl | %     |     | GC.3   | 85      | [NT]          | [NT]                      | LCS-W1    | 89%                 |

| QUALITY CONTROL    | DNTROL UNITS PQL METHOD Blank |   | Blank           | Duplicate Sm# | Duplicate results | Spike Sm#                 | Spike %<br>Recovery |         |
|--------------------|-------------------------------|---|-----------------|---------------|-------------------|---------------------------|---------------------|---------|
| PAHs in Water      |                               |   |                 |               |                   | Base II Duplicate II %RPD |                     |         |
| Date extracted     | -                             |   |                 | 17/5/10       | [NT]              | [NT]                      | LCS-W2              | 17/5/10 |
| Date analysed      | -                             |   |                 | 17/5/10       | [NT]              | [NT]                      | LCS-W2              | 17/5/10 |
| Naphthalene        | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | LCS-W2              | 85%     |
| Acenaphthylene     | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | [NR]                | [NR]    |
| Acenaphthene       | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | [NR]                | [NR]    |
| Fluorene           | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | LCS-W2              | 95%     |
| Phenanthrene       | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | LCS-W2              | 95%     |
| Anthracene         | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | [NR]                | [NR]    |
| Fluoranthene       | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | LCS-W2              | 89%     |
| Pyrene             | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | LCS-W2              | 100%    |
| Benzo(a)anthracene | µg/L                          | 1 | GC.12<br>subset | <1            | [NT]              | [NT]                      | [NR]                | [NR]    |

Envirolab Reference: Revision No:



|                                            |       | Cli | ent Referen         | ce: 10         | )7622059, Nej | pean Hospital                               |           |                     |
|--------------------------------------------|-------|-----|---------------------|----------------|---------------|---------------------------------------------|-----------|---------------------|
| QUALITY CONTROL PAHs in Water              | UNITS | PQL | METHOD              | Blank          | Duplicate Sm# | Duplicate results Base II Duplicate II %RPD | Spike Sm# | Spike %<br>Recovery |
| Chrysene                                   | µg/L  | 1   | GC.12<br>subset     | <1             | [NT]          | [NT]                                        | LCS-W2    | 96%                 |
| Benzo(b+k)fluoranthene                     | µg/L  | 2   | GC.12<br>subset     | <2             | [NT]          | [NT]                                        | [NR]      | [NR]                |
| Benzo(a)pyrene                             | µg/L  | 1   | GC.12<br>subset     | <1             | [NT]          | [NT]                                        | LCS-W2    | 102%                |
| Indeno(1,2,3-c,d)pyrene                    | µg/L  | 1   | GC.12<br>subset     | <1             | [NT]          | [NT]                                        | [NR]      | [NR]                |
| Dibenzo(a,h)anthracene                     | µg/L  | 1   | GC.12<br>subset     | <1             | [NT]          | [NT]                                        | [NR]      | [NR]                |
| Benzo(g,h,i)perylene                       | µg/L  | 1   | GC.12<br>subset     | <1             | [NT]          | [NT]                                        | [NR]      | [NR]                |
| Surrogate<br>p-Terphenyl-d14               | %     |     | GC.12<br>subset     | 124            | [NT]          | [NT]                                        | LCS-W2    | 128%                |
|                                            |       |     |                     |                |               |                                             |           |                     |
| QUALITY CONTROL<br>HM in water - dissolved | UNITS | PQL | METHOD              | Blank          | Duplicate Sm# | Duplicate results Base II Duplicate II %RPD | Spike Sm# | Spike %<br>Recovery |
|                                            |       |     |                     |                |               |                                             |           |                     |
| Date prepared                              | -     |     |                     | 17/05/2<br>010 | 40990-1       | 17/5/10    17/5/10                          | LCS-3     | 17/5/10             |
| Date analysed                              | -     |     |                     | 17/05/2<br>010 | 40990-1       | 17/5/10    17/5/10                          | LCS-3     | 17/5/10             |
| Arsenic-Dissolved                          | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | <1    <1                                    | LCS-3     | 100%                |
| Cadmium-Dissolved                          | µg/L  | 0.1 | Metals.22<br>ICP-MS | <0.1           | 40990-1       | <0.1    0.2                                 | LCS-3     | 109%                |
| Chromium-Dissolved                         | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | <1    1                                     | LCS-3     | 99%                 |
| Copper-Dissolved                           | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | 1    5    RPD: 133                          | LCS-3     | 91%                 |
| Lead-Dissolved                             | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | <1    <1                                    | LCS-3     | 100%                |
| Mercury-Dissolved                          | µg/L  | 0.5 | Metals.21<br>CV-AAS | <0.5           | 40990-1       | <0.5    <0.5                                | LCS-3     | 102%                |
| Nickel-Dissolved                           | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | 3    5    RPD: 50                           | LCS-3     | 91%                 |
| Zinc-Dissolved                             | µg/L  | 1   | Metals.22<br>ICP-MS | <1             | 40990-1       | 2    10    RPD: 133                         | LCS-3     | 96%                 |

Envirolab Reference: 4 Revision No: F



| QUALITY CONTROL                            | UNITS    | PQL | METHOD   | Blank         | Duplicate Sm#                 | Duplicate results         | S     | Spike Sm#    | Spike %<br>Recovery |
|--------------------------------------------|----------|-----|----------|---------------|-------------------------------|---------------------------|-------|--------------|---------------------|
| Miscellaneous Inorganics                   |          |     |          |               |                               | Base II Duplicate II %RPD |       |              |                     |
| Date prepared                              | -        |     |          | 14/5/20<br>10 | [NT]                          | [NT]                      |       | LCS-2        | 14/5/2010           |
| Date analysed                              | -        |     |          | 18/5/20<br>10 | [NT]                          | [NT]                      |       | LCS-2        | 18/5/2010           |
| рН                                         | pH Units |     | LAB.1    | [NT]          | [NT]                          | [NT]                      |       | LCS-2        | 98%                 |
| Electrical Conductivity                    | µS/cm    | 1   | LAB.2    | <1.0          | [NT]                          | [NT]                      |       | LCS-2        | 99%                 |
| Chloride, Cl                               | mg/L     | 0.5 | LAB.81   | <0.50         | [NT]                          | [NT]                      |       | LCS-2        | 90%                 |
| Sulphate, SO4                              | mg/L     | 0.5 | LAB.81   | <0.50 [NT]    |                               | [NT]                      |       | LCS-2        | 87%                 |
| QUALITY CONTROL<br>HM in water - dissolved | UNITS    | 3   | Dup. Sm# |               | Duplicate<br>Duplicate + %RPD | Spike Sm#                 | Spike | e % Recovery |                     |
| Date prepared                              | -        |     | [NT]     |               | [NT]                          | 40990-2                   |       | 17/5/10      | _                   |
| Date analysed                              | -        |     | [NT]     |               | [NT]                          | 40990-2                   |       | 17/5/10      |                     |
| Arsenic-Dissolved                          | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 112%         |                     |
| Cadmium-Dissolved                          | µg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 92%          |                     |
| Chromium-Dissolved                         | µg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 100%         |                     |
| Copper-Dissolved                           | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   | 86%   |              |                     |
| Lead-Dissolved                             | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 80%          |                     |
| Mercury-Dissolved                          | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 99%          |                     |
| Nickel-Dissolved                           | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 86%          |                     |
| Zinc-Dissolved                             | μg/L     |     | [NT]     |               | [NT]                          | 40990-2                   |       | 96%          |                     |
| QUALITY CONTROL                            | UNITS    | 3 1 | Dup. Sm# |               | Duplicate                     | Spike Sm#                 | Spike | e % Recovery |                     |
| Miscellaneous Inorganics                   |          |     |          | Base +        | Duplicate + %RPD              | )                         |       |              |                     |
| Date prepared                              | -        |     | [NT]     | +             | [NT]                          | LCS-1                     | 1     | 4/5/2010     | -                   |
| Date analysed                              | -        |     | [NT]     |               | [NT]                          | LCS-1                     | 1     | 8/5/2010     |                     |
| рН                                         | pH Uni   | its | [NT]     |               | [NT]                          | [NR]                      |       | [NR]         |                     |
| Electrical Conductivity                    | µS/cn    | n   | [NT]     |               | [NT]                          | [NR]                      |       | [NR]         |                     |
| Chloride, Cl                               | mg/L     |     | [NT]     |               | [NT]                          | LCS-1                     |       | 87%          |                     |
| Sulphate, SO4                              | mg/L     |     | [NT]     |               | [NT]                          | LCS-1                     |       | 86%          |                     |

40990



### Report Comments:

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

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

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











| Sample Location   | Sample Depti<br>(m bgl) | <sup>n</sup> Sample Date | Sample Matrix                      |                  |             |            |              |            | Analytes   | 8          |          |          |    |        |
|-------------------|-------------------------|--------------------------|------------------------------------|------------------|-------------|------------|--------------|------------|------------|------------|----------|----------|----|--------|
| Primary Soil San  | nples                   |                          |                                    |                  |             |            |              |            |            |            |          |          |    |        |
| BH1-2             | 0.25-0.35               | 30/04/2010               | FILL: Road Base                    | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH2-1             | 0.05-0.15               | 30/04/2010               | FILL: Silty SAND                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH2-2             | 0.6-0.7                 | 30/04/2010               | FILL: Sandy SILT                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH3-1             | 0.0-0.1                 | 29/04/2010               | FILL: Sandy SILT                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH4-1             | 0.05-0.15               | 29/04/2010               | FILL: Gravelly SILT                | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH4-2             | 0.4-0.5                 | 29/04/2010               | FILL: CLAY                         | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH5-1             | 0.15-0.25               | 29/04/2010               | FILL: Gravelly SILT                | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH6-1             | 0.1-0.2                 | 29/04/2010               | FILL: Gravelly SILT                | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH7-1             | 0.05-0.15               | 30/04/2010               | TOPSOIL: Gravelly SILT             | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH7-2             | 0.5-0.6                 | 30/04/2010               | FILL: Silty SAND                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHA-1             | 0.11-0.2                | 3/05/2010                | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BHA-2             | 0.5-0.6                 | 3/05/2010                | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHB-1             | 0.5-0.6                 | 30/04/2010               | FILL: Clayey SAND                  | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHB-3             | 1.5-1.6                 | 30/04/2010               | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHC-1             | 0.3-0.5                 | 3/05/2010                | FILL: Silty SAND                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BHC-2             | 0.9-1.0                 | 3/05/2010                | FILL: Silty SAND                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHD-2             | 0.5-0.6                 | 3/05/2010                | FILL: Sandy GRAVEL                 | Metals           | Metals TCLP | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    | _      |
| BHD-3             | 0.9-1.0                 | 3/05/2010                | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          | рН       | EC | S      |
| BHE-2             | 0.5-0.6                 | 3/05/2010                | FILL: Sandy GRAVEL                 | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BHF-1             | 0.1-0.2                 | 30/04/2010               | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BHF-3             | 0.9-1.0                 | 30/04/2010               | Silty CLAY                         | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH8-1             | 0.0-0.1                 | 30/04/2010               | FILL: Clayey Sandy SILT            | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          | EC |        |
| BH8-3             | 0.5-0.6                 | 30/04/2010               | Clayey SILT                        | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH9-2             | 0.25-0.35               | 3/05/2010                | FILL: Sandy SILT                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH10-1            | 0.05-0.15               | 3/05/2010                | FILL: Sandy SILT                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH10-2            | 0.3-0.4                 | 3/05/2010                | Silty CLAY                         | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH11-1            | 0.05-0.15               | 30/04/2010               | FILL: Gravelly SILT                | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BH11-2            | 0.25-0.35               | 30/04/2010               | Silty CLAY                         | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH12-1            | 0.05-0.15               | 3/05/2010                | FILL: Clayey SILT                  | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          | 50 | ~      |
| BH12-3            | 0.65-0.75               | 3/05/2010                | CLAY                               | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Ashastas | рН       | EC | S      |
| BHG-2             | 0.5-0.6                 | 3/05/2010                | FILL: Sandy CLAY                   | Metals           | Metals TCLP | TPH        | BTEX         | PAH        | OCP        | PCB        | Asbestos |          |    |        |
| BHH-2             | 0.5-0.6                 | 3/05/2010                | FILL: Silty CLAY                   | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH13-2            | 0.6-0.7                 | 29/04/2010               | Silty CLAY                         | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| BH13-3            | 1.0-1.1                 | 29/04/2010               |                                    | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        | Ashastas |          |    |        |
| BH14-1<br>BH14-2  | 0.1-0.2                 | 29/04/2010               | FILL: Silty CLAY                   | Metals           |             | TPH<br>TPH | BTEX<br>BTEX | PAH<br>PAH | OCP<br>OCP | PCB<br>PCB | Asbestos |          |    |        |
| BH14-2<br>BH15-2  | 0.5-0.6<br>0.3-0.35     | 29/04/2010               |                                    | Metals           |             | TPH        | BTEX         |            | OCP        | PCB<br>PCB | Ashastas |          |    |        |
| BH16-1            | 0.3-0.35                | 29/04/2010<br>29/04/2010 | FILL: Clayey SILT<br>FILL: CLAY    | Metals<br>Metals |             | TPH        | BTEX         | PAH<br>PAH | OCP        | PCB<br>PCB | Asbestos |          |    |        |
| BHI-1             | 0.1-0.2                 | 29/04/2010               | FILL: GLAT                         | Metals           | Metals TCLP | TPH        | BTEX         |            | OCP        | PCB<br>PCB | Achastas |          |    |        |
| BHI-1<br>BHI-2    | 0.5-0.6                 | 29/04/2010 29/04/2010    | Silty CLAY                         | Metals           | Metals TCLP | TPH        | BTEX         | PAH<br>PAH | OCP        | PCB<br>PCB | Asbestos |          | EC |        |
| Primary Ground    |                         |                          | Silly CLAT                         | Ivietais         |             | IFN        | DIEA         | ГАП        | UCF        | FCD        |          |          | EC |        |
| MW102             | water Samples           | <b>1</b> 3/05/2010       | Groundwater                        | Metals           |             | TPH        | BTEX         | PAH        |            |            |          | pН       | EC | S      |
| BHC               | _                       | 13/05/2010               | Groundwater                        | Metals           |             | TPH        | BTEX         | PAH        |            |            |          | рН       | EC | 0<br>0 |
| BHF               |                         | 13/05/2010               | Groundwater                        | Metals           |             | TPH        | BTEX         | PAH        |            |            |          | рП<br>рН | EC | 0<br>0 |
| BHI               | _                       | 13/05/2010               | Groundwater                        | Metals           |             | TPH        | BTEX         | PAH        |            |            |          | рН       | EC | S      |
| Field Duplicate S | -<br>Samnles            | 13/03/2010               | Groundwater                        | Metals           |             | 1611       | DILA         | FAIL       |            |            |          | рп       | LC | 0      |
| DUPA              | -                       | _                        | BH13-3 (Soil)                      | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| DUPB              | -                       | -                        | BH5-1 (Soil)                       | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
| DUPC              | -                       | -                        | BH8-1 (Soil)                       | Metals           |             | TPH        | BTEX         | PAH        | OCP        | PCB        |          |          |    |        |
|                   | -                       | -                        |                                    |                  |             |            |              |            |            |            |          |          |    |        |
|                   | _                       | -                        | BH10-2 (Soil)                      | Metale           |             | трн        | BTEY         | РАН        |            | PCR        |          |          |    |        |
| DUPD<br>DUPA      | -                       | -                        | BH10-2 (Soil)<br>BHI (Groundwater) | Metals<br>Metals |             | TPH<br>TPH | BTEX<br>BTEX | PAH<br>PAH | OCP        | PCB        |          |          |    |        |

## Notes

Metals: As, Cd, Cu, Cr, Hg, Ni, Pb, Zn

TPH: Total Petroleum Hydrocarbons

BTEX: Benzene, Toluene, Ethyl benzene, Xylene

PAH - Polycyclic Aromatic Hydrocarbons

OCP - Organochlorine Pesticides

PCB - Polychlorinated Biphenyls

EC - Electrical Conductivity

CEC - Cation Exchange Capacity

m bgl: metres below ground level

## TABLE 1 ANALYTICAL PROGRAM

Phase I & II ESA

Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

| Sulfate & Chloride                                                                   | CEC |
|--------------------------------------------------------------------------------------|-----|
| Sulfate & Chloride                                                                   | CEC |
| Sulfate & Chloride<br>Sulfate & Chloride<br>Sulfate & Chloride<br>Sulfate & Chloride | CEC |

|                |                         |                 |                         | TPH C <sub>6</sub> - C <sub>9</sub> | TPH C <sub>10</sub> -C <sub>14</sub> | TPH C <sub>15</sub> -C <sub>28</sub> | TPH C <sub>29</sub> -C <sub>36</sub> | Total Positive<br>TPH C <sub>10</sub> -C <sub>36</sub> | Benzene | Toluene | Ethylbenzene | Xylene (m<br>& p) | Xylene (o |
|----------------|-------------------------|-----------------|-------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------------------|---------|---------|--------------|-------------------|-----------|
|                |                         |                 |                         | mg/kg                               | mg/kg                                | mg/kg                                | mg/kg                                | mg/kg                                                  | mg/kg   | mg/kg   | mg/kg        | mg/kg             | mg/kg     |
| Sample         | Sample Depth<br>(m bgl) | Sample Date     | Sample Matrix           |                                     |                                      |                                      |                                      |                                                        |         |         |              |                   |           |
| imary Sampl    | les                     |                 |                         |                                     |                                      |                                      |                                      |                                                        |         |         |              |                   |           |
| BH1-2          | 0.25-0.35               | 30/04/2010      | FILL: Road Base         | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH2-1          | 0.05-0.15               | 30/04/2010      | FILL: Silty SAND        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH2-2          | 0.6-0.7                 | 30/04/2010      | FILL: Sandy SILT        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH3-1          | 0.0-0.1                 | 29/04/2010      | FILL: Sandy SILT        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH4-1          | 0.05-0.15               | 29/04/2010      | FILL: Gravelly SILT     | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH4-2          | 0.4-0.5                 | 29/04/2010      | FILL: CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH5-1          | 0.15-0.25               | 29/04/2010      | FILL: Gravelly SILT     | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH6-1          | 0.1-0.2                 | 29/04/2010      | FILL: Gravelly SILT     | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | < 0.5   | < 0.5   | <1.0         | <2.0              | <1.0      |
| BH7-1          | 0.05-0.15               | 30/04/2010      | TOPSOIL: Gravelly SILT  | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH7-2          | 0.5-0.6                 | 30/04/2010      | FILL: Silty SAND        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHA-1          | 0.11-0.2                | 3/05/2010       | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHA-2          | 0.5-0.6                 | 3/05/2010       | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHB-1          | 0.5-0.6                 | 30/04/2010      | FILL: Clayey SAND       | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHB-3          | 1.5-1.6                 | 30/04/2010      | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | < 0.5   | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHC-1          | 0.3-0.5                 | 3/05/2010       | FILL: Silty SAND        | <25                                 | <50                                  | <100                                 | 120                                  | 120                                                    | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHC-2          | 0.9-1.0                 | 3/05/2010       | FILL: Silty SAND        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHD-2          | 0.5-0.6                 | 3/05/2010       | FILL: Sandy GRAVEL      | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHD-3          | 0.9-1.0                 | 3/05/2010       | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | < 0.5   | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHE-2          | 0.5-0.6                 | 3/05/2010       | FILL: Sandy GRAVEL      | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHF-1          | 0.1-0.2                 | 30/04/2010      | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHF-3          | 0.9-1.0                 | 30/04/2010      | Silty CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH8-1          | 0.0-0.1                 | 30/04/2010      | FILL: Clayey Sandy SILT | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BH8-3          | 0.5-0.6                 | 30/04/2010      | Clayey SILT             | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH9-2          | 0.25-0.35               | 3/05/2010       | FILL: Sandy SILT        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BH10-1         | 0.05-0.15               | 3/05/2010       | FILL: Sandy SILT        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH10-2         | 0.3-0.4                 | 3/05/2010       | Silty CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BH11-1         | 0.05-0.15               | 30/04/2010      | FILL: Gravelly SILT     | <25                                 | <50                                  | <100                                 | 110                                  | 110                                                    | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH11-2         | 0.25-0.35               | 30/04/2010      | Silty CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH12-1         | 0.05-0.15               | 3/05/2010       | FILL: Clayey SILT       | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | < 0.5   | <1.0         | <2.0              | <1.0      |
| BH12-3         | 0.65-0.75               | 3/05/2010       | CLAY                    | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHG-2          | 0.5-0.6                 | 3/05/2010       | FILL: Sandy CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | < 0.5   | < 0.5   | <1.0         | <2.0              | <1.0      |
| BHH-2          | 0.5-0.6                 | 3/05/2010       | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH13-2         | 0.6-0.7                 | 29/04/2010      | Silty CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH13-3         | 1.0-1.1                 | 29/04/2010      | CLAY                    | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH14-1         | 0.1-0.2                 | 29/04/2010      | FILL: Silty CLAY        | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH14-2         | 0.5-0.6                 | 29/04/2010      | CLAY                    | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH15-2         | 0.3-0.35                | 29/04/2010      | FILL: Clayey SILT       | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BH16-1         | 0.1-0.2                 | 29/04/2010      | FILL: CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHI-1          | 0.5-0.6                 | 29/04/2010      | FILL: Gravelly SAND     | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| BHI-2          | 0.9-1.0                 | 29/04/2010      | Silty CLAY              | <25                                 | <50                                  | <100                                 | <100                                 | ND                                                     | <0.5    | <0.5    | <1.0         | <2.0              | <1.0      |
| uidelines for  | assessing Servic        | e Station Sites |                         | 65                                  | -                                    | -                                    | -                                    | 1,000                                                  | 1       | 130     | 50           | 2                 | 5         |
| eneral Solid V | Vaste Criteria wit      | hout TCLP (DEC  | CW 2009)                | 650                                 | -                                    | -                                    | -                                    | 10,000                                                 | 10      | 288     | 600          | 1,0               | 00        |
| actricted Cali | d Waste Criteria        |                 | ECCW 2000)              | 2.600                               | _                                    |                                      |                                      | 40.000                                                 | 40      | 1,152   | 2.400        | 44                | 00        |

Notes

Figures in **bold** exceed the Guidelines for Service Station Sites

Figures in bold italics exceed the General Solid Waste Criteria

Figures in *bold underlined italics* exceed the Restricted Solid Waste Criteria

m bgl - meters below ground level

'ND' denotes 'Not Detected'

- indicates not analysed or no criteria available

TPH- Total Petroleum Hydrocarbons

#### TABLE 2

#### SUMMARY OF ANALYTICAL RESULTS

SOIL: TPH and BTEX

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

| Sample           | Sample Depth                            | Sample Date            | Sample Matrix                          | Maphthalene<br>May/kg | and Acenaphthylene<br>by/bw | Acenaphthene<br>by/bu | eueoniu<br>mg/kg | Phenanthrene<br>Phenanthrene | anthracene<br>Mrthracene | Eluoranthene<br>Fluoranthene | euau<br>A   | benzo(a)anthracene<br>by/b | Chrysene<br>Wg/kg | Benzo(b,k)fluoranthene | benzo(a)pyrene<br>benzo(a)pyrene | by Indeno(1,2,3-c,d)pyrene | b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b<br>b | Benzo(g,h,i)perylene<br>by/ | Total PAH<br>mg/kg |
|------------------|-----------------------------------------|------------------------|----------------------------------------|-----------------------|-----------------------------|-----------------------|------------------|------------------------------|--------------------------|------------------------------|-------------|----------------------------|-------------------|------------------------|----------------------------------|----------------------------|---------------------------------------------------------------------------------------------|-----------------------------|--------------------|
| Gampio           | (m bgl)                                 | Campio Dato            | Campio maan                            |                       |                             |                       |                  |                              |                          |                              |             |                            |                   |                        |                                  |                            |                                                                                             |                             |                    |
| Primary Samp     | ples                                    |                        |                                        |                       |                             |                       |                  |                              |                          |                              |             |                            |                   |                        |                                  |                            |                                                                                             |                             |                    |
| BH1-2            | 0.25-0.35                               | 30/04/2010             | FILL: Road Base                        | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH2-1            | 0.05-0.15                               | 30/04/2010             | FILL: Silty SAND                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH2-2            | 0.6-0.7                                 | 30/04/2010             | FILL: Sandy SILT                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH3-1            | 0.0-0.1                                 | 29/04/2010             | FILL: Sandy SILT                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH4-1            | 0.05-0.15                               | 29/04/2010             | FILL: Gravelly SILT                    | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH4-2            | 0.4-0.5                                 | 29/04/2010             | FILL: CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH5-1            | 0.15-0.25                               | 29/04/2010             | FILL: Gravelly SILT                    | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | 0.1         | <0.1                       | <0.1              | <0.2                   | 0.05                             | <0.1                       | <0.1                                                                                        | <0.1                        | 0.15               |
| BH6-1            | 0.1-0.2                                 | 29/04/2010             | FILL: Gravelly SILT                    | <0.1                  | <0.1                        | <0.1                  | <0.1             | 0.1                          | <0.1                     | 0.2                          | 0.2         | 0.1                        | 0.1               | <0.2                   | 0.1                              | <0.1                       | <0.1                                                                                        | <0.1                        | 0.8                |
| BH7-1            | 0.05-0.15                               | 30/04/2010             | TOPSOIL: Gravelly SILT                 | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH7-2            | 0.5-0.6                                 | 30/04/2010             | FILL: Silty SAND                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHA-1            | 0.11-0.2                                | 3/05/2010              | FILL: Silty CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHA-2            | 0.5-0.6                                 | 3/05/2010              | FILL: Silty CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHB-1            | 0.5-0.6                                 | 30/04/2010             | FILL: Clayey SAND                      | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHB-3            | 1.5-1.6                                 | 30/04/2010             | FILL: Silty CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHC-1            | 0.3-0.5                                 | 3/05/2010              | FILL: Silty SAND                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | 0.1                          | <0.1                     | 0.3                          | 0.4         | 0.2                        | 0.3               | 0.5                    | 0.3                              | 0.2                        | <0.1                                                                                        | 0.2                         | 2.5                |
| BHC-2            | 0.9-1.0                                 | 3/05/2010              | FILL: Silty SAND                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHD-2            | 0.5-0.6                                 | 3/05/2010              | FILL: Sandy GRAVEL                     | <0.1                  | <0.1                        | <0.1                  | <0.1             | 0.1                          | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | 0.1                |
| BHD-3<br>BHE-2   | 0.9-1.0<br>0.5-0.6                      | 3/05/2010<br>3/05/2010 | FILL: Silty CLAY                       | <0.1<br><0.1          | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2<br><0.2           | <0.05<br><0.05                   | <0.1<br><0.1               | <0.1                                                                                        | <0.1                        | ND<br>ND           |
| BHF-1            | 0.1-0.2                                 | 30/04/2010             | FILL: Sandy GRAVEL<br>FILL: Silty CLAY | <0.1                  | <0.1                        | <0.1<br><0.1          | <0.1<br><0.1     | <0.1<br><0.1                 | <0.1<br><0.1             | <0.1                         | <0.1        | <0.1<br><0.1               | <0.1<br><0.1      | <0.2                   | <0.05                            | <0.1                       | <0.1<br><0.1                                                                                | <0.1<br><0.1                | ND                 |
| BHF-1<br>BHF-3   | 0.9-1.0                                 | 30/04/2010             | Silty CLAY                             | <0.1                  | <0.1<br><0.1                | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1<br>0.1                  | <0.1<br>0.1 | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | 0.2                |
| BH8-1            | 0.9-1.0                                 | 30/04/2010             | FILL: Clayey Sandy SILT                | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH8-3            | 0.5-0.6                                 | 30/04/2010             | Clayey SILT                            | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH9-2            | 0.25-0.35                               | 3/05/2010              | FILL: Sandy SILT                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH10-1           | 0.05-0.15                               | 3/05/2010              | FILL: Sandy SILT                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH10-1<br>BH10-2 | 0.3-0.4                                 | 3/05/2010              | Silty CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH10-2<br>BH11-1 | 0.05-0.15                               | 30/04/2010             | FILL: Gravelly SILT                    | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH11-2           | 0.25-0.35                               | 30/04/2010             | Silty CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH12-1           | 0.05-0.15                               | 3/05/2010              | FILL: Clayey SILT                      | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH12-3           | 0.65-0.75                               | 3/05/2010              | CLAY                                   | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHG-2            | 0.5-0.6                                 | 3/05/2010              | FILL: Sandy CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | 0.1                          | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | 0.1                |
| BHH-2            | 0.5-0.6                                 | 3/05/2010              | FILL: Silty CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH13-2           | 0.6-0.7                                 | 29/04/2010             | Silty CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH13-3           | 1.0-1.1                                 | 29/04/2010             | CLAY                                   | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH14-1           | 0.1-0.2                                 | 29/04/2010             | FILL: Silty CLAY                       | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH14-2           | 0.5-0.6                                 | 29/04/2010             | CLAY                                   | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH15-2           | 0.3-0.35                                | 29/04/2010             | FILL: Clayey SILT                      | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BH16-1           | 0.1-0.2                                 | 29/04/2010             | FILL: CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHI-1            | 0.5-0.6                                 | 29/04/2010             | FILL: Gravelly SAND                    | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | < 0.05                           | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
| BHI-2            | 0.9-1.0                                 | 29/04/2010             | Silty CLAY                             | <0.1                  | <0.1                        | <0.1                  | <0.1             | <0.1                         | <0.1                     | <0.1                         | <0.1        | <0.1                       | <0.1              | <0.2                   | <0.05                            | <0.1                       | <0.1                                                                                        | <0.1                        | ND                 |
|                  | De alta Onltania (C                     |                        | -1-1)                                  |                       |                             |                       |                  |                              |                          |                              |             |                            |                   |                        | -                                |                            |                                                                                             |                             | 400                |
|                  | Onsite Criteria (Co                     |                        |                                        | -                     | -                           | -                     |                  | -                            | <u>.</u>                 |                              | -           | -                          | -                 |                        | 5<br>0.8                         | -                          | -                                                                                           | -                           | 100                |
|                  | Waste Criteria wi<br>Nid Waste Criteria |                        |                                        |                       |                             | -                     |                  | -                            |                          |                              | -           | -                          | -                 | •                      | 0.8                              | -                          | -                                                                                           | -                           | 200<br>800         |

Figures in **bold** exceed the NEPM HIL-F Onsite Criteria (Commercial/Industrial)

Figures in bold italics exceed the General Solid Waste Criteria

Figures in bold underlined italics exceed the Restricted Solid Waste Criteria

All results are expressed as mg/kg (dry weight) unless otherwise specified

'-' indicates no criteria available

'ND' denotes 'Not Detected'

## SUMMARY OF ANALYTICAL RESULTS SOIL: PAH

Phase I & II ESA

Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

TABLE 3

| r                |                         |                          |                                         |              |              |              |              |              |              |              |              | ۵.           |              |                 | 1            |              |              | 1            |              |              |              | te           |              |
|------------------|-------------------------|--------------------------|-----------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  |                         |                          |                                         |              |              | 0            |              |              |              |              |              | Epoxide      | Chlordane    | ane             | _            |              | =            |              |              |              | de           | Sulphate     | 5            |
|                  |                         |                          |                                         |              | alpha-BHC    | gamma-BHC    | beta-BHC     | hlor         | delta-BHC    | ~            | .⊆           | d<br>d       | ord          | alpha-Chlordane | Endosulfan   | c            | an           | щ            | 0            | F            | Aldehyde     | Sul          | Methoxychlor |
|                  |                         |                          |                                         | НСВ          | а-<br>В      | na-          | 8            | Heptachlor   | ц<br>Б       | Aldrin       | Dieldrin     |              | -S           |                 | sul          | Endrin       | Endosulfan   | ą            | aaa          | -DDT         | Ald          | sulfan       | ÂXÓ          |
|                  |                         |                          |                                         | 1            | hd           | Ē            | oeta         | eb           | lelt         | <            | ē            | sch          | na-          | <u>a</u> -0     | pp           | ū            | op<br>D      | dd           | dd           | dd           | ndrin        | sulf         | atho         |
|                  |                         |                          |                                         |              | æ            | ga           |              | 1            | 0            |              |              | eptachlor    | amr          | dp              | ш            |              | ш            |              |              |              | pu           | ĝ            | ž            |
|                  |                         |                          |                                         |              |              | -            | -            |              |              |              |              | Ĩ            | ö            |                 |              |              |              |              |              |              | -            | ш            |              |
|                  | Consula Douth           |                          |                                         | mg/kg           | mg/kg        | mg/kg        | mg/kg        | mg/kg        | mg/kg        | mg/kg        | mg/kg        | mg/kg        | mg/kg        |
| Sample           | Sample Depth<br>(m bal) | Sample Date              | Sample Matrix                           |              |              |              |              |              |              |              |              |              |              |                 |              |              |              |              |              |              |              |              |              |
|                  | (iii bgi)               |                          |                                         |              |              |              |              |              |              |              |              |              |              |                 |              |              |              |              |              |              |              |              |              |
| Primary S        |                         |                          |                                         |              |              |              |              |              |              |              |              |              |              |                 |              |              |              |              |              |              |              |              |              |
| BH1-2            | 0.25-0.35               | 30/04/2010               | FILL: Road Base                         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH2-1            | 0.05-0.15               | 30/04/2010               | FILL: Silty SAND                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH2-2            | 0.6-0.7                 | 30/04/2010               | FILL: Sandy SILT                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH3-1<br>BH4-1   | 0.0-0.1<br>0.05-0.15    | 29/04/2010<br>29/04/2010 | FILL: Sandy SILT<br>FILL: Gravelly SILT | <0.1<br><0.1    | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 |
| BH4-1<br>BH4-2   | 0.05-0.15               | 29/04/2010               | FILL: Gravely SILT<br>FILL: CLAY        | <0.1         | <0.1         | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1<br><0.1 | <0.1         | <0.1         | <0.1<br><0.1 | <0.1         |
| BH5-1            | 0.4-0.5                 | 29/04/2010               | FILL: GLAT                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH6-1            | 0.1-0.2                 | 29/04/2010               | FILL: Gravelly SILT                     | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH7-1            | 0.05-0.15               | 30/04/2010               | TOPSOIL: Gravelly SILT                  | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH7-2            | 0.5-0.6                 | 30/04/2010               | FILL: Silty SAND                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | < 0.1           | < 0.1        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHA-1            | 0.11-0.2                | 3/05/2010                | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHA-2            | 0.5-0.6                 | 3/05/2010                | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHB-1            | 0.5-0.6                 | 30/04/2010               | FILL: Clayey SAND                       | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHB-3            | 1.5-1.6                 | 30/04/2010               | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHC-1            | 0.3-0.5                 | 3/05/2010                | FILL: Silty SAND                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHC-2            | 0.9-1.0                 | 3/05/2010                | FILL: Silty SAND                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHD-2            | 0.5-0.6                 | 3/05/2010                | FILL: Sandy GRAVEL                      | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHD-3            | 0.9-1.0                 | 3/05/2010                | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHE-2<br>BHF-1   | 0.5-0.6<br>0.1-0.2      | 3/05/2010<br>30/04/2010  | FILL: Sandy GRAVEL<br>FILL: Silty CLAY  | <0.1<br><0.1    | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 |
| BHF-3            | 0.9-1.0                 | 30/04/2010               | Silty CLAY                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH8-1            | 0.0-0.1                 | 30/04/2010               | FILL: Clayey Sandy SILT                 | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH8-3            | 0.5-0.6                 | 30/04/2010               | Clayey SILT                             | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH9-2            | 0.25-0.35               | 3/05/2010                | FILL: Sandy SILT                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH10-1           | 0.05-0.15               | 3/05/2010                | FILL: Sandy SILT                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH10-2           | 0.3-0.4                 | 3/05/2010                | Silty CLAY                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH11-1           | 0.05-0.15               | 30/04/2010               | FILL: Gravelly SILT                     | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH11-2           | 0.25-0.35               | 30/04/2010               | Silty CLAY                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH12-1           | 0.05-0.15               | 3/05/2010                | FILL: Clayey SILT                       | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH12-3           | 0.65-0.75               | 3/05/2010                | CLAY                                    | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHG-2            | 0.5-0.6                 | 3/05/2010                | FILL: Sandy CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHH-2            | 0.5-0.6                 | 3/05/2010                | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH13-2<br>BH13-3 | 0.6-0.7<br>1.0-1.1      | 29/04/2010<br>29/04/2010 | Silty CLAY<br>CLAY                      | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         | <0.1         | <0.1         | <0.1<br><0.1 | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         |
| BH13-3<br>BH14-1 | 0.1-0.2                 | 29/04/2010               | FILL: Silty CLAY                        | <0.1         | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1 | <0.1<br><0.1    | <0.1<br><0.1 | <0.1         | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 | <0.1         | <0.1         | <0.1<br><0.1 | <0.1<br><0.1 |
| BH14-1<br>BH14-2 | 0.5-0.6                 | 29/04/2010               | CLAY                                    | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH15-2           | 0.3-0.35                | 29/04/2010               | FILL: Clayey SILT                       | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BH16-1           | 0.1-0.2                 | 29/04/2010               | FILL: CLAY                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHI-1            | 0.5-0.6                 | 29/04/2010               | FILL: Gravelly SAND                     | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
| BHI-2            | 0.9-1.0                 | 29/04/2010               | Silty CLAY                              | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1            | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         | <0.1         |
|                  |                         |                          |                                         |              |              |              |              |              |              |              |              |              |              |                 |              |              |              |              |              |              |              |              |              |
|                  | -F Onsite Crite         | ria (Commercial/I        | ndustrial)                              | -            | -            | -            | -            | 50           | -            | Ę            | 50           | -            | 2            | 50              | -            | -            | -            |              | 1,000        |              | -            | -            | -            |
| Notes            |                         |                          |                                         |              |              |              |              |              |              |              |              |              |              |                 |              |              |              |              |              |              |              |              |              |

Notes

Figures in **bold** exceed the NEPM HIL-F Onsite Criteria (Commercial/Industrial)

All results are expressed as mg/kg (dry weight) unless otherwise specified

'-' indicates no criteria available

'ND' denotes 'Not Detected'

OCP: Organochlorine Pesticides

m bgl: metres below ground level

#### TABLE 4

### SUMMARY OF ANALYTICAL RESULTS SOIL: OCP

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

|             |                         |                |                         | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | Arochlor 1242 | Arochlor 1248 | Arochlor 1254 | Arochlor 1260 | Total PCB |
|-------------|-------------------------|----------------|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------|
|             |                         |                |                         | mg/kg         | mg/kg     |
| Sample      | Sample Depth<br>(m bgl) | Sample Date    | Sample Matrix           |               |               |               |               |               |               |               |           |
| Primary Sam | ples                    |                |                         |               |               |               |               |               |               |               |           |
| BH1-2       | 0.25-0.35               | 30/04/2010     | FILL: Road Base         | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH2-1       | 0.05-0.15               | 30/04/2010     | FILL: Silty SAND        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH2-2       | 0.6-0.7                 | 30/04/2010     | FILL: Sandy SILT        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH3-1       | 0.0-0.1                 | 29/04/2010     | FILL: Sandy SILT        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH4-1       | 0.05-0.15               | 29/04/2010     | FILL: Gravelly SILT     | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH4-2       | 0.4-0.5                 | 29/04/2010     | FILL: CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH5-1       | 0.15-0.25               | 29/04/2010     | FILL: Gravelly SILT     | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH6-1       | 0.1-0.2                 | 29/04/2010     | FILL: Gravelly SILT     | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH7-1       | 0.05-0.15               | 30/04/2010     | TOPSOIL: Gravelly SILT  | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH7-2       | 0.5-0.6                 | 30/04/2010     | FILL: Silty SAND        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHA-1       | 0.11-0.2                | 3/05/2010      | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHA-2       | 0.5-0.6                 | 3/05/2010      | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHB-1       | 0.5-0.6                 | 30/04/2010     | FILL: Clayey SAND       | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHB-3       | 1.5-1.6                 | 30/04/2010     | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHC-1       | 0.3-0.5                 | 3/05/2010      | FILL: Silty SAND        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHC-2       | 0.9-1.0                 | 3/05/2010      | FILL: Silty SAND        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHD-2       | 0.5-0.6                 | 3/05/2010      | FILL: Sandy GRAVEL      | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHD-3       | 0.9-1.0                 | 3/05/2010      | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHE-2       | 0.5-0.6                 | 3/05/2010      | FILL: Sandy GRAVEL      | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHF-1       | 0.1-0.2                 | 30/04/2010     | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHF-3       | 0.9-1.0                 | 30/04/2010     | Silty CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH8-1       | 0.0-0.1                 | 30/04/2010     | FILL: Clayey Sandy SILT | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH8-3       | 0.5-0.6                 | 30/04/2010     | Clayey SILT             | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH9-2       | 0.25-0.35               | 3/05/2010      | FILL: Sandy SILT        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH10-1      | 0.05-0.15               | 3/05/2010      | FILL: Sandy SILT        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH10-2      | 0.3-0.4                 | 3/05/2010      | Silty CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH11-1      | 0.05-0.15               | 30/04/2010     | FILL: Gravelly SILT     | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH11-2      | 0.25-0.35               | 30/04/2010     | Silty CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH12-1      | 0.05-0.15               | 3/05/2010      | FILL: Clayey SILT       | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH12-3      | 0.65-0.75               | 3/05/2010      | CLAY                    | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHG-2       | 0.5-0.6                 | 3/05/2010      | FILL: Sandy CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHH-2       | 0.5-0.6                 | 3/05/2010      | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH13-2      | 0.6-0.7                 | 29/04/2010     | Silty CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH13-3      | 1.0-1.1                 | 29/04/2010     | CLAY                    | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH14-1      | 0.1-0.2                 | 29/04/2010     | FILL: Silty CLAY        | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH14-2      | 0.5-0.6                 | 29/04/2010     | CLAY                    | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH15-2      | 0.3-0.35                | 29/04/2010     | FILL: Clayey SILT       | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BH16-1      | 0.1-0.2                 | 29/04/2010     | FILL: CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHI-1       | 0.5-0.6                 | 29/04/2010     | FILL: Gravelly SAND     | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
| BHI-2       | 0.9-1.0                 | 29/04/2010     | Silty CLAY              | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | ND        |
|             | Onsite Criteria (C      | commercial/Ind | ustrial)                | -             | -             | -             | -             | -             | -             | -             | 50        |

Notes

Figures in **bold** exceed the NEPM HIL-F Onsite Criteria (Commercial/Industrial) All results are expressed as mg/kg (dry weight) unless otherwise specified

'-' indicates no criteria available

'ND' denotes 'Not Detected'

PCB: Polychlorinated Biphenyls

m bgl: metres below ground level

### TABLE 5 SUMMARY OF ANALYTICAL RESULTS SOIL: PCB

Phase I & II ESA

Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

|                    |                                                                                               |                          |                                        | Arsenic  | Arsenic<br>TCLP | Cadmium      | Cadmium<br>TCLP | Chromium | Chromium<br>TCLP | Copper   | Copper<br>TCLP | Lead     | Lead TCLP | Mercury      | Mercury<br>TCLP | Nickel   | Nickel<br>TCLP | Zinc      | Zinc TCLP |
|--------------------|-----------------------------------------------------------------------------------------------|--------------------------|----------------------------------------|----------|-----------------|--------------|-----------------|----------|------------------|----------|----------------|----------|-----------|--------------|-----------------|----------|----------------|-----------|-----------|
|                    |                                                                                               |                          |                                        | mg/kg    | mg/L            | mg/kg        | mg/L            | mg/kg    | mg/L             | mg/kg    | mg/L           | mg/kg    | mg/L      | mg/kg        | mg/L            | mg/kg    | mg/L           | mg/kg     | mg/L      |
| Sample<br>Location | Sample Depth<br>(m bgl)                                                                       | Sample Date              | Sample Matrix                          |          |                 |              |                 |          |                  |          |                |          |           |              |                 |          |                |           |           |
| Primary Samp       | oles                                                                                          |                          |                                        |          |                 |              |                 |          |                  |          |                |          |           |              |                 |          |                |           |           |
| BH1-2              | 0.25-0.35                                                                                     | 30/04/2010               | FILL: Road Base                        | 5        |                 | < 0.5        |                 | 17       |                  | 21       |                | 14       |           | <0.1         |                 | 14       |                | 43        |           |
| BH2-1              | 0.05-0.15                                                                                     | 30/04/2010               | FILL: Silty SAND                       | <4       |                 | <0.5         |                 | 19       |                  | 43       |                | 19       |           | <0.1         |                 | 16       |                | 89        |           |
| BH2-2              | 0.6-0.7                                                                                       | 30/04/2010               | FILL: Sandy SILT                       | 9        |                 | <0.5         |                 | 27       |                  | 40       |                | 26       |           | <0.1         |                 | 15       |                | 53        |           |
| BH3-1              | 0.0-0.1                                                                                       | 29/04/2010               | FILL: Sandy SILT                       | 5        |                 | <0.5         |                 | 14       |                  | 25       |                | 22       |           | <0.1         |                 | 14       |                | 62        |           |
| BH4-1              | 0.05-0.15                                                                                     | 29/04/2010               | FILL: Gravelly SILT                    | 6        |                 | <0.5         |                 | 19       |                  | 65       |                | 19       |           | <0.1         |                 | 39       |                | 85        |           |
| BH4-2              | 0.4-0.5                                                                                       | 29/04/2010               | FILL: CLAY                             | 7        |                 | <0.5         |                 | 19       |                  | 37       |                | 26       |           | <0.1         |                 | 11       |                | 48        |           |
| BH5-1              | 0.15-0.25                                                                                     | 29/04/2010               | FILL: Gravelly SILT                    | 4        |                 | <0.5         |                 | 29       |                  | 44       |                | 22       |           | <0.1         |                 | 29       |                | 63        |           |
| BH6-1              | 0.1-0.2                                                                                       | 29/04/2010               | FILL: Gravelly SILT                    | 5        |                 | <0.5         |                 | 15       |                  | 26       |                | 20       |           | <0.1         |                 | 14       |                | 67        |           |
| BH7-1              | 0.05-0.15                                                                                     | 30/04/2010               | TOPSOIL: Gravelly SILT                 | <4       |                 | <0.5         |                 | 13       |                  | 22       |                | 24       |           | <0.1         |                 | 11       |                | 70        |           |
| BH7-2              | 0.5-0.6                                                                                       | 30/04/2010               | FILL: Silty SAND                       | <4       |                 | < 0.5        |                 | 12       |                  | 13       |                | 15       |           | <0.1         |                 | 12       |                | 47        |           |
| BHA-1              | 0.11-0.2                                                                                      | 3/05/2010                | FILL: Silty CLAY                       | 7        |                 | < 0.5        |                 | 19       |                  | 83       |                | 29       |           | <0.1         |                 | 16       |                | 94        |           |
| BHA-2              | 0.5-0.6                                                                                       | 3/05/2010                | FILL: Silty CLAY                       | 6        |                 | < 0.5        |                 | 19       |                  | 67       |                | 36       |           | 0.1          |                 | 14       |                | 110       |           |
| BHB-1              | 0.5-0.6                                                                                       | 30/04/2010               | FILL: Clayey SAND                      | <4       |                 | <0.5         |                 | 7        |                  | 11       |                | 13       |           | <0.1         |                 | 9        |                | 39        |           |
| BHB-3<br>BHC-1     | 1.5-1.6<br>0.3-0.5                                                                            | 30/04/2010<br>3/05/2010  | FILL: Silty CLAY                       | <4<br><4 |                 | <0.5<br><0.5 |                 | 20<br>23 |                  | 41<br>12 |                | 19<br>28 |           | 0.2<br><0.1  |                 | 12<br>7  |                | 62<br>110 |           |
|                    | 0.3-0.5                                                                                       | 3/05/2010                | FILL: Silty SAND                       |          |                 |              |                 | 23       |                  |          |                |          |           |              |                 | 19       |                | 86        |           |
| BHC-2<br>BHD-2     | 0.5-0.6                                                                                       | 3/05/2010                | FILL: Silty SAND<br>FILL: Sandy GRAVEL | 6<br>5   | <0.05           | <0.5<br><0.5 | <0.01           | 40       | <0.01            | 34<br>32 | 0.05           | 20<br>18 | < 0.03    | <0.1<br><0.1 | <0.0005         | 48       | 0.05           | 58        | 0.7       |
| BHD-3              | 0.9-1.0                                                                                       | 3/05/2010                | FILL: Silty CLAY                       | 10       | <0.00           | <0.5         | <0.01           | 16       | <0.01            | 36       | 0.00           | 18       | <0.00     | <0.1         | <0.0000         | 10       | 0.05           | 46        | 0.7       |
| BHE-2              | 0.5-0.6                                                                                       | 3/05/2010                | FILL: Sandy GRAVEL                     | 12       |                 | <0.5         |                 | 19       |                  | 44       |                | 15       |           | <0.1         |                 | 31       |                | 39        |           |
| BHF-1              | 0.1-0.2                                                                                       | 30/04/2010               | FILL: Silty CLAY                       | 7        |                 | <0.5         |                 | 19       |                  | 33       |                | 26       |           | <0.1         |                 | 16       |                | 82        |           |
| BHF-3              | 0.9-1.0                                                                                       | 30/04/2010               | Silty CLAY                             | 9        |                 | <0.5         |                 | 18       |                  | 26       |                | 20       |           | <0.1         |                 | 9        |                | 41        |           |
| BH8-1              | 0.0-0.1                                                                                       | 30/04/2010               | FILL: Clayey Sandy SILT                | 6        |                 | <0.5         |                 | 15       |                  | 21       |                | 20       |           | 0.4          |                 | 9        |                | 110       |           |
| BH8-3              | 0.5-0.6                                                                                       | 30/04/2010               | Clayey SILT                            | 8        |                 | <0.5         |                 | 21       |                  | 19       |                | 24       |           | <0.1         |                 | 11       |                | 44        |           |
| BH9-2              | 0.25-0.35                                                                                     | 3/05/2010                | FILL: Sandy SILT                       | 8        |                 | < 0.5        |                 | 34       |                  | 28       |                | 25       |           | <0.1         |                 | 19       |                | 53        |           |
| BH10-1             | 0.05-0.15                                                                                     | 3/05/2010                | FILL: Sandy SILT                       | 5        |                 | < 0.5        |                 | 14       |                  | 18       |                | 17       |           | <0.1         |                 | 11       |                | 53        |           |
| BH10-2             | 0.3-0.4                                                                                       | 3/05/2010                | Silty CLAY                             | 6        |                 | < 0.5        |                 | 17       |                  | 16       |                | 18       |           | <0.1         |                 | 9        |                | 38        |           |
| BH11-1             | 0.05-0.15                                                                                     | 30/04/2010               | FILL: Gravelly SILT                    | 8        |                 | <0.5         |                 | 20       |                  | 28       |                | 26       |           | <0.1         |                 | 10       |                | 53        |           |
| BH11-2             | 0.25-0.35                                                                                     | 30/04/2010               | Silty CLAY                             | 8        |                 | <0.5         |                 | 22       |                  | 24       |                | 27       |           | <0.1         |                 | 12       |                | 48        |           |
| BH12-1             | 0.05-0.15                                                                                     | 3/05/2010                | FILL: Clayey SILT                      | 8        |                 | <0.5         |                 | 21       |                  | 26       |                | 37       |           | <0.1         |                 | 13       |                | 60        |           |
| BH12-3             | 0.65-0.75                                                                                     | 3/05/2010                | CLAY                                   | 6        |                 | <0.5         |                 | 8        |                  | 20       |                | 10       |           | <0.1         |                 | 4        |                | 17        |           |
| BHG-2              | 0.5-0.6                                                                                       | 3/05/2010                | FILL: Sandy CLAY                       | 5        | <0.05           | <0.5         | <0.01           | 65       | <0.01            | 38       | 0.07           | 16       | <0.03     | <0.1         | < 0.0005        | 73       | 0.05           | 71        | 0.6       |
| BHH-2              | 0.5-0.6                                                                                       | 3/05/2010                | FILL: Silty CLAY                       | 5        |                 | <0.5         |                 | 20       |                  | 24       |                | 16       |           | <0.1         |                 | 15       |                | 38        |           |
| BH13-2             | 0.6-0.7                                                                                       | 29/04/2010               | Silty CLAY                             | 9        |                 | <0.5         |                 | 21       |                  | 23       |                | 25       |           | <0.1         |                 | 15       |                | 39        |           |
| BH13-3             | 1.0-1.1                                                                                       | 29/04/2010               | CLAY                                   | 7        |                 | <0.5         |                 | 17       |                  | 15       |                | 13       |           | <0.1         |                 | 4        |                | 17        |           |
| BH14-1             | 0.1-0.2                                                                                       | 29/04/2010               | FILL: Silty CLAY                       | 10       |                 | < 0.5        |                 | 21       |                  | 21       |                | 50       |           | <0.1         |                 | 18       |                | 96        |           |
| BH14-2             | 0.5-0.6                                                                                       | 29/04/2010               | CLAY                                   | 6        |                 | < 0.5        |                 | 12       |                  | 18       |                | 11       |           | <0.1         |                 | 3        |                | 23        |           |
| BH15-2             | 0.3-0.35                                                                                      | 29/04/2010               | FILL: Clayey SILT                      | 8        |                 | < 0.5        |                 | 17       |                  | 48       |                | 52       |           | <0.1         |                 | 28       |                | 92        |           |
| BH16-1             | 0.1-0.2                                                                                       | 29/04/2010               | FILL: CLAY                             | 22       | 0.05            | < 0.5        | 0.04            | 12       | 0.04             | 19       | 0.07           | 23       | 0.00      | <0.1         | 0.0007          | 5        |                | 58        | 0.7       |
| BHI-1<br>BHI-2     | 0.5-0.6<br>0.9-1.0                                                                            | 29/04/2010<br>29/04/2010 | FILL: Gravelly SAND<br>Silty CLAY      | <4<br>5  | <0.05           | <0.5<br><0.5 | <0.01           | 12<br>18 | <0.01            | 87<br>39 | 0.07           | 7<br>12  | <0.03     | <0.1<br><0.1 | <0.0005         | 73<br>37 | 0.2            | 47<br>36  | 0.7       |
|                    | nsito Critoria (Co                                                                            | mmoroial/Indua           | trial                                  | 500      |                 | 100          | -               | 500*     |                  | 5,000    | -              | 1,500    |           | 75           | -               | 3,000    |                | 35,000    | -         |
|                    | PM HIL-F Onsite Criteria (Commercial/Industrial)                                              |                          |                                        |          | - 5.0           | 100          | - 1.0           | 1,900*   | - 5              | 5,000    | -              | 1,500    | 5         | 75<br>50     | - 0.2           | 1,050    | 2              | -         | -         |
|                    | Solid Waste Criteria with TCLP (DECCW 2009)<br>ed Solid Waste Criteria with TCLP (DECCW 2009) |                          |                                        |          |                 |              |                 |          |                  | -        | -              |          |           |              |                 |          |                |           |           |
| Restricted Sol     | iid waste Criteria                                                                            | with ICLP (DEC           | CW 2009)                               | 2,000    | 20              | 400          | 4               | 7,600*   | 20               | -        | -              | 6,000    | 20        | 200          | 0.8             | 4,200    | 8              | -         | -         |

Notes

Figures in **bold** exceed the NEPM HIL-F Onsite Criteria (Commercial/Industrial)

Figures in bold italics exceed the General Solid Waste Criteria

Figures in bold underlined italics exceed the Restricted Solid Waste Criteria

\* indictes criteria is for chromium VI

PQL - Practical Quantitation Limit

All total results are expressed as mg/kg (dry weight) unless otherwise specified

### SUMMARY OF ANALYTICAL RESULTS SOIL: Heavy Metals

TABLE 6

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

Golder Associates
|                    |                         |             |                     | Asbestos                           | Respirable<br>Fibres |
|--------------------|-------------------------|-------------|---------------------|------------------------------------|----------------------|
| Sample<br>Location | Sample Depth<br>(m bgl) | Sample Date | Sample Matrix       |                                    |                      |
| Primary Samp       |                         |             |                     |                                    |                      |
| BH1-2              | 0.25-0.35               | 30/04/2010  | FILL: Road Base     | ND                                 | ND                   |
| BH2-1              | 0.05-0.15               | 30/04/2010  | FILL: Silty SAND    | ND                                 | ND                   |
| BH3-1              | 0.0-0.1                 | 29/04/2010  | FILL: Sandy SILT    | ND                                 | ND                   |
| BH5-1              | 0.15-0.25               | 29/04/2010  | FILL: Gravelly SILT | ND                                 | ND                   |
| BHA-1              | 0.11-0.2                | 3/05/2010   | FILL: Silty CLAY    | Chrysotile and<br>Amosite Asbestos | ND                   |
| BHC-1              | 0.3-0.5                 | 3/05/2010   | FILL: Silty SAND    | ND                                 | ND                   |
| BHF-1              | 0.1-0.2                 | 30/04/2010  | FILL: Silty CLAY    | ND                                 | ND                   |
| BH9-2              | 0.25-0.35               | 3/05/2010   | FILL: Sandy SILT    | ND                                 | ND                   |
| BH11-1             | 0.05-0.15               | 30/04/2010  | FILL: Gravelly SILT | ND                                 | ND                   |
| BHG-2              | 0.5-0.6                 | 3/05/2010   | FILL: Sandy CLAY    | ND                                 | ND                   |
| BH14-1             | 0.1-0.2                 | 29/04/2010  | FILL: Silty CLAY    | ND                                 | ND                   |
| BH15-2             | 0.3-0.35                | 29/04/2010  | FILL: Clayey SILT   | ND                                 | ND                   |
| BHI-1              | 0.5-0.6                 | 29/04/2010  | FILL: Gravelly SAND | ND                                 | ND                   |
|                    |                         |             |                     |                                    |                      |

'ND' denotes 'Not Detected'

m bgl: metres below ground level

## TABLE 7 SUMMARY OF ANALYTICAL RESULTS SOIL: Asbestos

Phase I & II ESA

Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

|                   |                         |                   |                | TPH C <sub>6</sub> - C <sub>9</sub> | TPH C <sub>10</sub> -<br>C <sub>14</sub> | TPH C <sub>15</sub> -<br>C <sub>28</sub> | - TPH C <sub>29</sub> -<br>C <sub>36</sub> | Total Positive<br>TPH $C_{10}$ - $C_{36}$ | Benzene | Toluene | Ethylbenzene | Xylene<br>(m & p) |      |
|-------------------|-------------------------|-------------------|----------------|-------------------------------------|------------------------------------------|------------------------------------------|--------------------------------------------|-------------------------------------------|---------|---------|--------------|-------------------|------|
|                   |                         |                   |                | µg/L                                | µg/L                                     | µg/L                                     | µg/L                                       | µg/L                                      | µg/L    | µg/L    | µg/L         | µg/L              | µg/L |
| Sample            | Sample Depth<br>(m bgl) | Sample Date       | Sample Matrix  |                                     |                                          |                                          |                                            |                                           |         |         |              |                   |      |
| Primary Samples   |                         |                   |                |                                     |                                          |                                          |                                            |                                           |         |         |              |                   |      |
| MW102             | -                       | 13/05/2010        | Groundwater    | <10                                 | <50                                      | <100                                     | <100                                       | ND                                        | <1.0    | <1.0    | <1.0         | 3.0               | 1.2  |
| BHC               | -                       | 13/05/2010        | Groundwater    | <10                                 | <50                                      | <100                                     | <100                                       | ND                                        | <1.0    | <1.0    | <1.0         | <2.0              | <1.0 |
| BHF               | -                       | 13/05/2010        | Groundwater    | <10                                 | <50                                      | <100                                     | <100                                       | ND                                        | <1.0    | <1.0    | <1.0         | <2.0              | <1.0 |
| BHI               | -                       | 13/05/2010        | Groundwater    | 45                                  | 340                                      | <100                                     | <100                                       | 340                                       | <1.0    | <1.0    | 4.4          | 25                | 18   |
| ANZECC 2000 Trigg | ger Values for Fres     | hwater (95% speci | es protection) | -                                   | -                                        | -                                        | -                                          | -                                         | 950     | -       | -            | -                 | 350  |

Figures in **bold** exceed the ANZECC 2000 Guidelines

m bgl - meters below ground level

'ND' denotes 'Not Detected'

- indicates not analysed or no criteria available

TPH- Total Petroleum Hydrocarbons

BTEX- Benzene, Toluene, Ethyl benzene, Xylene

All results are expressed as micrograms per litre ( $\mu$ g/L) unless otherwise specified

#### TABLE 8 SUMMARY OF ANALYTICAL RESULTS GROUNDWATER: TPH and BTEX

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

|              |                         |                   |                     | Naphthalene | Acenaphthylene | Acenaphthene | Fluorene | Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benzo(a)anthracene | Chrysene | Benzo(b,k)fluoranthene | Benzo(a)pyrene | Indeno(1,2,3-c,d)pyrene | Dibenzo(a,h)anthracene | Benzo(g,h,i)perylene | Total PAH |
|--------------|-------------------------|-------------------|---------------------|-------------|----------------|--------------|----------|--------------|------------|--------------|--------|--------------------|----------|------------------------|----------------|-------------------------|------------------------|----------------------|-----------|
|              |                         |                   |                     | 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      |
| Sample       | Sample Depth<br>(m bgl) | Sample Date       | Sample Matrix       |             |                |              |          |              |            |              |        |                    |          |                        |                |                         |                        |                      |           |
| Primary Samp | les                     |                   |                     |             |                |              |          |              |            |              |        |                    |          |                        |                |                         |                        |                      |           |
| MW102        | -                       | 13/05/2010        | Groundwater         | <1          | <1             | <1           | <1       | <1           | <1         | <1           | <1     | <1                 | <1       | <2                     | <1             | <1                      | <1                     | <1                   | ND        |
| BHC          | -                       | 13/05/2010        | Groundwater         | <1          | <1             | <1           | <1       | <1           | <1         | <1           | <1     | <1                 | <1       | <2                     | <1             | <1                      | <1                     | <1                   | ND        |
| BHF          | -                       | 13/05/2010        | Groundwater         | <1          | <1             | <1           | <1       | <1           | <1         | <1           | <1     | <1                 | <1       | <2                     | <1             | <1                      | <1                     | <1                   | ND        |
| BHI          | -                       | 13/05/2010        | Groundwater         | <1          | <1             | <1           | <1       | <1           | <1         | <1           | <1     | <1                 | <1       | <2                     | <1             | <1                      | <1                     | <1                   | ND        |
| ANZECC 2000  | Trigger Values fo       | r Freshwater (95% | species protection) | 16          | -              | -            | -        | -            | -          | -            | -      | -                  | -        | -                      | -              | -                       | -                      |                      | -         |

Figures in **bold** exceed the ANZECC 2000 Guidelines

m bgl - meters below ground level

'ND' denotes 'Not Detected'

- indicates not analysed or no criteria available

PAH - Polycyclic aromatic hydrocarbons

All results are expressed as micrograms per litre ( $\mu$ g/L) unless otherwise specified

#### TABLE 9 SUMMARY OF ANALYTICAL RESULTS GROUNDWATER: PAH

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

|                          |                         |                   |                | Arsenic | Cadmium | Chromium | Copper | Lead     | Mercury      | Nickel | Zinc    |
|--------------------------|-------------------------|-------------------|----------------|---------|---------|----------|--------|----------|--------------|--------|---------|
|                          |                         |                   |                | µg/L    | μg/L    | µg/L     | µg/L   | µg/L     | μg/L         | µg/L   | µg/L    |
| Sample                   | Sample Depth<br>(m bgl) | Sample Date       | Sample Matrix  |         |         |          |        |          |              |        |         |
| rimory Complee           |                         |                   |                |         |         |          |        |          |              |        |         |
| Primary Samples<br>MW102 |                         | 13/05/2010        | Groundwater    | <1      | <0.1    | <1       | 1      | <1       | <0.5         | 3      | 2       |
| BHC                      | -                       | 13/05/2010        | Groundwater    | <1      | <0.1    | <1       | 1      | <1<br><1 | <0.5<br><0.5 | 3      | 2       |
| BHF                      | _                       | 13/05/2010        | Groundwater    | <1      | <0.1    | <1       | 2      | <1       | <0.5<br><0.5 | 9      | 2       |
| BHI                      | -                       | 13/05/2010        | Groundwater    | <1      | <0.1    | <1       | 2      | <1       | <0.5<br><0.5 | 28     | ,<br>19 |
| NZECC 2000 Tric          | ger Values for Fres     | hwater (95% speci | es protection) | 13*     | 0.2     | 1.0**    | 1.4    | 3.4      | 0.6***       | 11     | 8.0     |

Figures in **bold** exceed the ANZECC 2000 Guidelines

m bgl - meters below ground level

'ND' denotes 'Not Detected'

- indicates not analysed or no criteria available

All results are expressed as micrograms per litre (µg/L) unless otherwise specified

\* Criteria for AsV

\*\* Criteria for CrVI

\*\*\* Criteria for inorganic Hg

# TABLE 10 SUMMARY OF ANALYTICAL RESULTS GROUNDWATER: HEAVY METALS

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

| Sample                                                                                                                                                                                                                | Sample Depth                                                                                                                                                                                                                            | Sample Date                                                                                                                                                                         | Sample Matrix                                                                                               | Arsenic                                                                                                                                                                                                                                                          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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ND<br>ND                                                                            |
| Location<br>BHI<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH13-3<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH5-1                                                                                    | (m bgl)<br>ent Difference<br>Sample Depth<br>(m bgl)<br>1.0-1.1<br>ent Difference<br>Sample Depth                                                                                                                                       | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>Sample Date<br>29/04/2010                                                                                    | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Sample Matrix<br>Sample Matrix               | 45<br>48<br>6.5<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipateue<br>vultipa                                                                                                       | 340<br>280<br><b>19.4</b><br>euelyththingene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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                                                                                                                                                                                                                                | <100<br><100<br>N/C<br>euronug<br>40.1<br><0.1<br>V/C<br>V/C                                                                                                                                                                                                     | 340<br>280<br><b>19.4</b><br>euerophic<br>setup<br>truesoft<br>c0.1<br>c0.1<br>c0.1<br>c0.1<br>c0.1<br>c0.1<br>c0.1                                                                                                                                                                                                                                                                                                                                                                                                                 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                                                                                                                                          | <1.0<br><1.0<br><b>N/C</b><br>Linorauthene<br>Fluorauthene<br>Z.1.<br>S.1.<br>S.1.<br>S.1.<br>S.1.<br>S.1.<br>S.1.<br>S.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4.4<br>3.8<br>14.6<br><0.1<br><0.1<br><0.1<br>N/C                                                       | (m & p)<br>25<br>29<br>14.8<br>■<br>eucocal<br>authracel<br>(a)authracel<br>(b)czuag<br>(c).1<br>× 0.1<br>×                                                                                                                                                               | CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU2860<br>CHU286 | <0.2<br><0.2<br>N/C<br>Beuzo(p'k)tinorauthene<br><0.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <0.05<br><0.05<br>N/C<br>Beuzo(a)bAteu<br>B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | .0 1 1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.0><br><b>Dipenzo(a'p)autitracen</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.<br>⊖ Benzo(g,h,i)perylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ND<br>ND<br>N/C<br>HFd Isoo<br>L<br>0.15                                            |
| Location<br>BHI<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH13-3<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH5-1<br>DUPB                                                                            | (m bgl)<br>-<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>-<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)                                                                                                                   | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>Sample Date                                                                                                  | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Sample Matrix                                | 45<br>48<br><b>6.5</b><br>Nuthatene<br>V.C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 340<br>280<br><b>19.4</b><br>euaj\AthtideuaoA<br>∀0.1<br><b>N/C</b><br>euaj\AthtideuaoA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <000<br><000<br>N/C<br>Vceuabhthene<br>Acenaphthene<br>V.C<br>V.C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <100<br><100<br>N/C<br>eueuon<br>J                                                                                                                                                                                                                               | 340<br>280<br><b>19.4</b><br>e-u-u-true<br>e-u-u-true<br>d-<br><0.1<br><0.1<br><b>N/C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <1.0<br><1.0<br><b>N/C</b><br>Linorauthene<br>EInorauthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4.4<br>3.8<br>14.6<br>4.4<br>3.8<br>14.6<br>4.4<br>4.4<br>4.4<br>4.4<br>4.4<br>4.4<br>4.4<br>4.4<br>4.4 | (m & p)<br>25<br>29<br>14.8<br>■<br>Beuzo(a)authracene<br>Q.1<br>V/C<br>V/C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 18<br>15<br>18.2<br>Cutoseue<br>Cutoseue<br>Cutoseue<br>Cutoseue<br>Cutoseue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                                                                                                                                                                                                                                                               | <0.05<br><0.05<br><b>N/C</b><br>Beuzo(a)bhrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Indeno(1,2,3-c,d)pyrene ろ(-, -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dibenzo(a,h)anthracene Dibenzo(a,h)anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Benzo(g,h.i)perylene ろ(g,h.i)perylen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Total PAH                                                                           |
| Location<br>BHI<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH13-3<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH5-1<br>DUPB                                                                            | (m bgl)<br>-<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>-<br>                                                                                                                                                                 | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>Sample Date<br>29/04/2010<br>29/04/2010                                                                      | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Sample Matrix<br>Sample Matrix               | 45<br>48<br><b>6.5</b><br>Naphthalene<br>Vaphthalene<br>V/C<br>√0.1<br><0.1<br><0.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 340<br>280<br><b>19.4</b><br>∀Ceuraphthylene<br>V/C           V/C           √0.1           √0.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <100<br><100<br>N/C<br>●ueututudeueuevevevevevevevevevevevevevevevevev                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <100<br><100<br>N/C<br>euasonJ<br>H<br><0.1<br><0.1<br>K/C<br>euasonJ<br>H<br><0.1<br><0.1<br><0.1                                                                                                                                                               | 340<br>280<br><b>19.4</b><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <1.0<br><1.0<br><b>N/C</b><br><b>Vutpuaceue</b><br>Vutpuaceue<br>Autpuaceue<br>(0.1<br>(0.1<br>(0.1)<br>(0.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul> <li>&lt;1.0</li> <li>&lt;1.0</li> <li>&lt;1.0</li> <li><b>XVC</b></li> <li>Linoranthene     </li> <li>Enroranthene     </li> <li>Linoranthene     </li> <li>Linoranthene     </li> <li>Linoranthene     </li> <li>Linoranthene     </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4.4<br>3.8<br>14.6<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1                              | (m & p)<br>25<br>29<br>14.8<br>■<br>authuaceue<br>(a) authuaceue<br>(b) 29<br>14.8<br>0.1<br>(c) 0.1<br>(c) 0.1<br>(                                                                                                                                                                                                                                                                                           | Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chr                                                                                     | <0.2<br><0.2<br><b>N/C</b><br><b>N/C</b><br>Seuzo(p'k)t (nor authene<br><0.2<br><0.2<br><b>N/C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <0.05<br><0.05<br><b>N/C</b><br>Beuzo(a)<br>b/(a)<br>0.05<br><0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul> <li>Q.1</li> <li>Q.2</li> <li>Q.1</li> <li>VC</li> <li>Q.2</li> <li>Q.1</li> <li>Q.2</li> <li>Q.2</li></ul> | <0.1<br><0.1<br><b>N/C</b><br>V/C<br>↓<br>Dipeutzo(a'l))autituaceue<br>↓<br>0.1<br>↓<br>0.1<br>↓<br>0.1<br><b>N/C</b><br>↓<br><b>N/C</b><br>↓<br><b>N/C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | G ⊖ Benzo(g,h,i)perylene Z ⊖ ⊖ Benzo(g,h,i)perylen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ND<br>ND<br>N/C<br>HFd repo<br>L<br>0.15<br>ND                                      |
| Location<br>BHI<br>DUPA<br>Relative Perce                                                                                                                                                                             | (m bgl)<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>1.0-1.1<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25<br>-<br>ent Difference               | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>30/04/2010                                                                       | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil | 45<br>48<br><b>6.5</b><br>Vabuthalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene<br>Althalene | 340<br>280<br><b>19.4</b><br>euslyththene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene<br>Acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <100<br><100<br>N/C<br>■<br>■<br>■<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocuabutuee<br>Vocu                                                                                                                                                                                                                                                                                                                                                                     | <100<br><100<br>N/C<br>euasonI<br>4<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1                                                                                                                                                              | 340<br>280<br><b>19.4</b><br>                                                                                                                                                                                                                                                                                                                                                                   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| <1.0<br><1.0<br>N/C<br>V/C<br>Elnocautheue<br>Elnocautheue<br>Elnocautheue<br>V/C<br>V/C<br>V/C<br>V/C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4.4<br>3.8<br>14.6<br>                                                                                  | (m & p)<br>25<br>29<br><b>14.8</b><br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueocolume<br>eueo 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                                                             | 0.1<br>0.1<br>0.1<br>0.1<br>0.1<br>0.0<br>0.1<br>0.0<br>0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Location<br>BHI<br>DUPA<br>Relative Perce                                                                                                                                                                             | (m bgl)<br>                                                                                                                                                                                                                             | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010                                                         | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil                 | 45<br>48<br><b>6.5</b><br>••••••••••••••••••••••••••••••••••••                                                                                                                                                                                                   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                                                       | Benzo(g,h.i)perylene ろう Benzo(g,h.i)perylene ろう ひ Benzo(g,h.i)perylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Total PAH<br>N/C<br>0.15<br>N/C                                                     |
| Location<br>BHI<br>DUPA<br>Relative Perce                                                                                                                                                                             | (m bgl)<br>ent Difference<br>Sample Depth<br>(m bgl)<br>1.0-1.1<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25                                                     | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>30/04/2010                                                                       | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil | 45<br>48<br><b>6.5</b><br>••••••••••••••••••••••••••••••••••••                                                                                                                                                                                                   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340<br>280<br><b>19.4</b><br>eualyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenacyththdenace<br>Acenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyt 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                                                                         | 340<br>280<br><b>19.4</b><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <1.0<br><1.0<br>V/C<br>eueseuseuseuseuseuseuseuseuseuseuseuseus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <1.0<br><1.0<br><b>N/C</b><br>Linorauthene<br>El norauthene<br>El norauthene<br>El norauthene<br>El norauthene<br>C.1.<br>C.1.<br>C.1.<br>C.1.<br>C.1.<br>C.1.<br>C.1.<br>C.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4.4<br>3.8<br>14.6<br>                                                                                  | (m & p)<br>25<br>29<br>14.8<br>eueocal<br>eueocal<br>eueocal<br>v(c)<br>25<br>29<br>0.1<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v( | 18<br>15<br>18.2<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seue<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE<br>CµJ2seuE                                                                                    | <ul> <li>&lt;0.2</li> <l< td=""><td>&lt;0.05<br/>&lt;0.05<br/><b>N/C</b><br/>auaurád(e)<br/>ozuae<br/>0.05<br/>&lt;0.05<br/>&lt;0.05<br/><b>0.0#</b><br/>auaurád(e)<br/>ozuae<br/>auaurád(e)<br/>ozuae</td><td></td><td><ul> <li>↓ 0.1</li> <li< td=""><td>SK C C C C C C C C C C C C C C C C C C C</td><td>ND<br/>NC<br/>HVC<br/>UC<br/>UC<br/>HVC<br/>HVC<br/>HVC<br/>NC</td></li<></ul></td></l<></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <0.05<br><0.05<br><b>N/C</b><br>auaurád(e)<br>ozuae<br>0.05<br><0.05<br><0.05<br><b>0.0#</b><br>auaurád(e)<br>ozuae<br>auaurád(e)<br>ozuae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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                                                                                                                                                                                                                                                                                      | <ul> <li>↓ 0.1</li> <li< td=""><td>SK C C C C C C C C C C C C C C C C C C C</td><td>ND<br/>NC<br/>HVC<br/>UC<br/>UC<br/>HVC<br/>HVC<br/>HVC<br/>NC</td></li<></ul>                                 | SK C C C C C C C C C C C C C C C C C C C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ND<br>NC<br>HVC<br>UC<br>UC<br>HVC<br>HVC<br>HVC<br>NC                              |
| Location<br>BHI<br>DUPA<br>Relative Perce                                                                                                                                                                             | (m bgl)<br>ent Difference<br>Sample Depth<br>(m bgl)<br>1.0-1.1<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25                                                     | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>30/04/2010<br>30/04/2010                                           | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil | 45<br>48<br><b>6.5</b><br>••••••••••••••••••••••••••••••••••••                                                                                                                                                                                                   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340<br>280<br><b>19.4</b><br>eualyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenace<br>Acenacyththdenacyththdenace<br>Acenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyththdenacyt                                                                                                                                                                                                                                                                                                                            | <100<br><100<br>N/C<br>V/C<br>Voeuabutudeueov<br>voeuabutudeueov   vo.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                         | 340<br>280<br><b>19.4</b><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <1.0<br><1.0<br>V/C<br>eueseuseuseuseuseuseuseuseuseuseuseuseus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4.4<br>3.8<br>14.6<br>                                                                                  | (m & p)<br>25<br>29<br><b>14.8</b><br>■<br>■<br>0.1<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V<br>V          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<td>&lt;0.05<br/>&lt;0.05<br/><b>N/C</b><br/>auaurád(e)<br/>ozuae<br/>0.05<br/>&lt;0.05<br/>&lt;0.05<br/><b>0.0#</b><br/>auaurád(e)<br/>ozuae<br/>auaurád(e)<br/>ozuae</td><td></td><td>0.1<br/>0.1<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC<br/>VC</td><td>1. 1<br/>G G Benzo(g,h,i)perylene S G G h,i)perylene S G G h,i)perylene S G G h,i)perylene S G G h,i)perylene</td><td>ND<br/>NC<br/>HVC<br/>UC<br/>UC<br/>HVC<br/>HVC<br/>HVC<br/>NC</td></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                       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<0.05<br><0.05<br><b>N/C</b><br>auaurád(e)<br>ozuae<br>0.05<br><0.05<br><0.05<br><b>0.0#</b><br>auaurád(e)<br>ozuae<br>auaurád(e)<br>ozuae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Location<br>BHI<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH13-3<br>DUPA<br>Relative Perce<br>Sample<br>Location<br>BH5-1<br>DUPB<br>Relative Perce<br>Sample<br>Location<br>BH8-1<br>DUPC<br>Relative Perce | (m bgl)<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>1.0-1.1<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.15-0.25<br>-<br>ent Difference<br>Sample Depth<br>(m bgl)<br>0.0-0.1<br>-<br>ent Difference<br>Sample Depth | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>30/04/2010<br>30/04/2010<br>30/04/2010<br>30/04/2010 | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil | 45<br>48<br>6.5<br>euenetytytden<br><0.1<br><0.1<br>×/C<br>euenetytytden<br><0.1<br>×/C<br>×/C<br>×/C<br>×/C                                                                                                                                                     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340<br>280<br><b>19.4</b><br>euslyththene<br>Acenaphthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acenaphtylthylene<br>Acen 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p)<br>25<br>29<br>14.8<br>eueocal<br>eueocal<br>eueocal<br>v(c)<br>25<br>29<br>0.1<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.1<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v(c)<br>0.2<br>v( | 18<br>15<br>18.2<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene<br>Chr/sene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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td=""><td>&lt;0.05<br/>&lt;0.05<br/>N/C<br/>eua,/d(e)ozueg<br/>0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>&lt;0.05<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td></td><td><ul> <li>↓ 0.1</li> <li< td=""><td>SK C C C C C C C C C C C C C C C C C C C</td><td>ND<br/>ND<br/>N/C<br/>HFd Isso<br/>L<br/>0.15<br/>ND<br/>V/C<br/>HFd Isso<br/>L<br/>ND<br/>V/C</td></li<></ul></td></l<></ul> | <0.05<br><0.05<br>N/C<br>eua,/d(e)ozueg<br>0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br><0.05<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul> <li>↓ 0.1</li> <li< td=""><td>SK C C C C C C C C C C C C C C C C C C C</td><td>ND<br/>ND<br/>N/C<br/>HFd Isso<br/>L<br/>0.15<br/>ND<br/>V/C<br/>HFd Isso<br/>L<br/>ND<br/>V/C</td></li<></ul> | SK C C C C C C C C C C C C C C C C C C C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ND<br>ND<br>N/C<br>HFd Isso<br>L<br>0.15<br>ND<br>V/C<br>HFd Isso<br>L<br>ND<br>V/C |
| Location<br>BHI<br>DUPA<br>Relative Perce                                                                                                                                                                             | (m bg)<br>                                                                                                                                                                                                                              | 13/05/2010<br>13/05/2010<br>Sample Date<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>29/04/2010<br>30/04/2010<br>30/04/2010<br>30/04/2010<br>30/04/2010                             | Groundwater<br>Groundwater<br>Sample Matrix<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil<br>Soil | 45<br>48<br><b>6.5</b><br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value<br>value                                | 340<br>280<br><b>19.4</b><br>euelyththdenene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <100<br><100<br>N/C<br>aueututudeueeoW<br><0.1<br>√0.1<br>N/C<br>Voeuabututeue<br><0.1<br>√0.1<br>N/C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <100<br><100<br>N/C<br>auauoni<br>H<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.                                                                                                                                                               | 340<br>280<br><b>19.4</b><br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <1.0<br><1.0<br>N/C<br>eueseutuv<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1<br><0.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <1.0<br><1.0<br>N/C<br>V/C<br>Elnorauthene<br>Elnorauthene<br>Elnorauthene<br>Elnorauthene<br>C.1<br>C<br>N/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V/C<br>V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4.4<br>3.8<br>14.6<br>                                                                                  | (m & p)<br>25<br>29<br><b>14.8</b><br>■<br>■<br>■<br>0.1<br>Q.1<br>Q.1<br>Q.1<br>Q.1<br>Q.1<br>Q.1<br>Q.1<br>Q                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Chrysene<br>Ch                                                                                      | <ul> <li>C</li> <li>C</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | $\overset{\frown}{\bigcirc}$ Indeno(1,2,3-c,d)pyrene <b>⋜</b> $\overset{\frown}{\bigcirc}$ $\overset{\frown}{\bigcirc}$ Indeno(1,2,3-c,d)pyrene <b>ス</b> $\overset{\frown}{\bigcirc}$ $\overset{\frown}{\bigcirc}$ Indeno(1,2,3-c,d)pyrene <b>ス</b> $\overset{\frown}{\bigcirc}$ $\overset{\frown}{\bigcirc}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.1<br>VC<br>N/C<br>Dibenzo(a,h)anthracene<br>C<br>Dibenzo(a,h)anthracene<br>C<br>C<br>Dibenzo(a,h)anthracene<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.<br>C Benzo(g,h,i)perylene<br>S<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Total PAH<br>NC<br>NC<br>NC<br>NC<br>NC<br>NC<br>NC<br>NC<br>NC<br>NC               |

| Location (m bgl) | 13/05/2010               | Groundwater                | Naphtha<br>1    | Acenal          | Acena<br>1      | nn<br>⊑<br><1   | - Phena         | Anthr           | Eluora          | <1                     | L ☐ Benzo(a);   | Chr<br>Chr      | δ δ Benzo(b,k)  | Penzo(;         | ∆ Indeno(1,2    | Dibenzo(a,      | L _ Benzo(g,Ի   | 5 Z Tota        |
|------------------|--------------------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| BHI -<br>DUPA -  | 13/05/2010<br>13/05/2010 | Groundwater<br>Groundwater | <1<br><1<br>N/C | <1<br><1<br><b>N/C</b> | <1<br><1<br>N/C | <1<br><1<br>N/C | <2<br><2<br>N/C | <1<br><1<br>N/C | <1<br><1<br>N/C | <1<br><1<br>N/C | <1<br><1<br>N/C | ND<br>ND<br>N/C |

All soil results expressed as mg/kg unless otherwise specified

All groundwater results expressed in  $\mu g/L$  unless otherwise specified

Relative Percent Difference is estimated by [(S1-S2)/(S1+S2)]\*200

N/C indicates that an RPD could not be calculated as one or both results were non-detects

N/C indicates that an RPD could not be calculated as one or both results w # indicates that the RPD was calculated using laboratory detection limits Numbers in **bold** exceed the 50% RPD 'ND' denotes 'Not Detected' m bgl: metres below ground level

# TABLE 11 (1 of 2) SUMMARY OF ANALYTICAL RESULTS

Soll: Quality Assurance and Quality Control Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

| Sample<br>Location<br>BH13-3  | Sample<br>Depth (m<br>bgl)<br>1.0-1.1 | Sample Date 29/04/2010                          | Sample Matrix<br>Soil | 80<br>도<br><0.1            | alpha-BHC                   | gamma-BHC<br>03            | peta-BHC                   | Heptachlor<br>              | delta-BHC                       | ui<br>Yqqi<br>V<br>S        | Dieldrin<br>20:1   | Heptachlor Epoxide | gamma-Chlordane<br>1.0> | alpha-Chlordane<br>1.0> | Endosulfan I<br>Endosulfan 2 | ui<br>ugui<br>ugui<br>ugui<br>vgui<br>vgui<br>vgui<br>vgui<br>vg | Endosulfan II<br>Sourt | ଅପୁଦ୍ର-ଘୁ<br><0.1 | 0<br>0<br>-<br>d<br>-<br>d<br>-<br>d | LQQ-dd<br><0.1     | Endrin Aldehyde | 0<br>-<br>-           | Methoxychlor<br>1.0 |
|-------------------------------|---------------------------------------|-------------------------------------------------|-----------------------|----------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|---------------------------------|-----------------------------|--------------------|--------------------|-------------------------|-------------------------|------------------------------|------------------------------------------------------------------|------------------------|-------------------|--------------------------------------|--------------------|-----------------|-----------------------|---------------------|
| DUPA<br>Relative Perc         | -<br>ent Difference                   | 29/04/2010                                      | Soil                  | <0.1<br>N/C                | <0.1<br><b>N/C</b>          | <0.1<br><b>N/C</b>         | <0.1<br><b>N/C</b>         | <0.1<br><b>N/C</b>          | <0.1<br>N/C                     | <0.1<br>N/C                 | <0.1<br><b>N/C</b> | <0.1<br>N/C        | <0.1<br>N/C             | <0.1<br><b>N/C</b>      | <0.1<br>N/C                  | <0.1<br>N/C                                                      | <0.1<br><b>N/C</b>     | <0.1<br>N/C       | <0.1<br><b>N/C</b>                   | <0.1<br><b>N/C</b> | <0.1<br>N/C     | <0.1<br>N/C           | <0.1<br>N/C         |
| Sample<br>Location            | Sample<br>Depth (m<br>bgl)            | Sample Date                                     | Sample Matrix         | HCB                        | alpha-BHC                   | gamma-BHC                  | beta-BHC                   | Heptachlor                  | delta-BHC                       | Aldrin                      | Dieldrin           | Heptachlor Epoxide | gamma-Chlordane         | alpha-Chlordan <b>e</b> | Endosulfan I                 | Endrin                                                           | Endosulfan II          | pp-DDE            | pp-DDD                               | pp-DDT             | Endrin Aldehyde | Endosulfan Sulphate   | Methoxychlor        |
| BH5-1<br>DUPB                 | 0.15-0.25<br>-                        | 29/04/2010<br>29/04/2010                        | Soil<br>Soil          | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1               | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1                    | <0.1<br><0.1                | <0.1<br><0.1       | <0.1<br><0.1       | <0.1<br><0.1            | <0.1<br><0.1            | <0.1<br><0.1                 | <0.1<br><0.1                                                     | <0.1<br><0.1           | <0.1<br><0.1      | <0.1<br><0.1                         | <0.1<br><0.1       | <0.1<br><0.1    | <0.1<br><0.1          | <0.1<br><0.1        |
| Relative Perc                 | ent Difference                        | )                                               |                       | N/C                        | N/C                         | N/C                        | N/C                        | N/C                         | N/C                             | N/C                         | N/C                | N/C                | N/C                     | N/C                     | N/C                          | N/C                                                              | N/C                    | N/C               | N/C                                  | N/C                | N/C             | N/C                   | N/C                 |
| Sample<br>Location            | Sample<br>Depth (m<br>bgl)            | Sample Date                                     | Sample Matrix         | НСВ                        | alpha-BHC                   | gamma-BHC                  | beta-BHC                   | Heptachlor                  | delta-BHC                       | Aldrin                      | Dieldrin           | Heptachlor Epoxide | gamma-Chlordane         | alpha-Chlordane         | Endosulfan I                 | Endrin                                                           | Endosulfan II          | pp-DDE            | DDD-qq                               | pp-DDT             | Endrin Aldehyde | Endosulfan Sulphate   | Methoxychlor        |
| BH8-1<br>DUPC                 | 0.0-0.1<br>-                          | 30/04/2010<br>30/04/2010                        | Soil<br>Soil          | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1               | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1                    | <0.1<br><0.1                | <0.1<br><0.1       | <0.1<br><0.1       | <0.1<br><0.1            | <0.1<br><0.1            | <0.1<br><0.1                 | <0.1<br><0.1                                                     | <0.1<br><0.1           | <0.1<br><0.1      | <0.1<br><0.1                         | <0.1<br><0.1       | <0.1<br><0.1    | <0.1<br><0.1          | <0.1<br><0.1        |
| Relative Perc                 | ent Difference                        | )                                               |                       | N/C                        | N/C                         | N/C                        | N/C                        | N/C                         | N/C                             | N/C                         | N/C                | N/C                | N/C                     | N/C                     | N/C                          | N/C                                                              | N/C                    | N/C               | N/C                                  | N/C                | N/C             | N/C                   | N/C                 |
| Sample<br>Location            | Sample<br>Depth (m<br>bgl)            | Sample Date                                     | Sample Matrix         | HCB                        | alpha-BHC                   | gamma-BHC                  | beta-BHC                   | Heptachlor                  | delta-BHC                       | Aldrin                      | Dieldrin           | Heptachlor Epoxide | gamma-Chlordane         | alpha-Chlordane         | Endosulfan I                 | Endrin                                                           | Endosulfan II          | pp-DDE            | DDD-qq                               | PD-DDT             | Endrin Aldehyde | , Endosulfan Sulphate | Methoxychlor        |
| BH10-2<br>DUPD                | 0.3-0.4                               | 3/05/2010<br>3/05/2010                          | Soil<br>Soil          | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1               | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1                    | <0.1<br><0.1                | <0.1<br><0.1       | <0.1<br><0.1       | <0.1<br><0.1            | <0.1<br><0.1            | <0.1<br><0.1                 | <0.1<br><0.1                                                     | <0.1<br><0.1           | <0.1<br><0.1      | <0.1<br><0.1                         | <0.1<br><0.1       | <0.1<br><0.1    | <0.1<br><0.1          | <0.1<br><0.1        |
| Relative Perc                 | ent Difference                        | •                                               |                       | N/C                        | N/C                         | N/C                        | N/C                        | N/C                         | N/C                             | N/C                         | N/C                | N/C                | N/C                     | N/C                     | N/C                          | N/C                                                              | N/C                    | N/C               | N/C                                  | N/C                | N/C             | N/C                   | N/C                 |
| Sample<br>Location<br>BH13-3  | Sample<br>Depth (m<br>bgl)<br>1.0-1.1 | Sample Date 29/04/2010                          | Sample Matrix<br>Soil | 0<br>1.0<br>1.016          | 0<br>Hochlor 1221           | 0><br>1:0>                 | 0<br>10 Arochlor 1242      | 0><br>1248                  | 0<br>Barochlor 1252             | 1:00<br>1260                | Z Total PCB        |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| DUPA                          | ent Difference                        | 29/04/2010                                      | Soil                  | <0.1<br>N/C                | <0.1<br>N/C                 | <0.1<br>N/C                | <0.1<br>N/C                | <0.1<br>N/C                 | <0.1<br>N/C                     | <0.1<br>N/C                 | ND<br>N/C          | -                  |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| Sample<br>Location            | Sample<br>Depth (m<br>bgl)            | Sample Date                                     | Sample Matrix         | Arochlor 1016              | Arochlor 122                | Arochlor 1232              | Arochlor 1242              | Arochlor 1248               | Arochlor 1254                   | Arochlor 1260               | Total PCB          |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| BH5-1<br>DUPB                 | 0.15-0.25                             | 29/04/2010<br>29/04/2010                        | Soil<br>Soil          | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1               | <0.1<br><0.1               | <0.1<br><0.1                | <0.1<br><0.1                    | <0.1<br><0.1                | ND<br>ND           | ļ                  |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| Sample<br>Location<br>BH8-1   | Sample<br>Depth (m<br>bgl)<br>0.0-0.1 | Sample Date 30/04/2010                          | Sample Matrix<br>Soil | N/C<br>Arochlor 1016       | <b>2/N</b><br>Arochlor 1221 | <b>2∖</b> Arochlor 1233    | <b>2/</b><br>Arochlor 1243 | <b>3/N</b><br>Arochlor 1246 | →N<br>Arochlor 125 <sup>2</sup> | <b>2/N</b><br>Arochlor 1260 | <b>D/N</b>         |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| DUPC                          | -<br>ent Difference                   | 30/04/2010                                      | Soil                  | <0.1<br>N/C                | <0.1<br>N/C                 | <0.1<br>N/C                | <0.1<br>N/C                | <0.1<br>N/C                 | <0.1<br>N/C                     | <0.1<br>N/C                 | ND<br>N/C          |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| Sample<br>Location            | Sample<br>Depth (m<br>bgl)            | Sample Date                                     | Sample Matrix         | Arochlor 1016              | Arochlor 1221               | Arochlor 1232              | Arochlor 1242              | Arochlor 1248               | Arochlor 1254                   | Arochlor 1260               | Total PCB          |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| BH10-2<br>DUPD                | 0.3-0.4<br>-<br>ent Difference        | 3/05/2010<br>3/05/2010                          | Soil<br>Soil          | <0.1<br><0.1<br><b>N/C</b> | <0.1<br><0.1<br><b>N/C</b>  | <0.1<br><0.1<br><b>N/C</b> | <0.1<br><0.1<br><b>N/C</b> | <0.1<br><0.1<br><b>N/C</b>  | <0.1<br><0.1<br><b>N/C</b>      | <0.1<br><0.1<br><b>N/C</b>  | ND<br>ND<br>N/C    |                    |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |
| Notes<br>All soil results exp | ressed as mg/kg u                     | nless otherwise specil<br>μg/L unless otherwise |                       | N/C                        | N/C                         |                            | TABLE                      | 11 (2 of                    | 2)                              | TICAL R                     |                    | ı<br>S             |                         |                         |                              |                                                                  |                        |                   |                                      |                    |                 |                       |                     |

All groundwater results expressed in  $\mu\text{g/L}$  unless otherwise specified

Relative Percent Difference is estimated by [(S1-S2)/(S1+S2)]\*200 N/C indicates that an RPD could not be calculated as one or both results were non-detects

# indicates that the RPD was calculated using laboratory detection limits Numbers in **bold** exceed the 50% RPD 'ND' denotes 'Not Detected'

m bgl: metres below ground level

# SUMMARY OF ANALYTICAL RESULTS

SOIL: Quality Assurance and Quality Control Phase I & II ESA

Stage 3A Development - Penrith Health Campus Health Infrastructure NSW



## PENRITH NEAPEAN HEALTH CAMPUS REDEVELOPMENT STAGE 3A GEOTECHNICAL INVESTIGATION REPORT - APPENDIX H

|                             |                                   |       |                 |         | D    | epth to Base of (r | n) <sup>1</sup> |       |                 |         |
|-----------------------------|-----------------------------------|-------|-----------------|---------|------|--------------------|-----------------|-------|-----------------|---------|
| Unit                        | Waste Classification <sup>2</sup> | Propo | sed Mental Heal | th Unit | Prop | osed Oral Health   | u Unit          | Propo | sed Maintenanco | e Depot |
|                             |                                   | BHA   | BHB             | BHC     | BHD  | BHE                | BHF             | BHG   | ВНН             | вні     |
| Asphalt/Concrete            | GSW <sup>3</sup>                  | 0.11  | 0.1             | 0.1     | -    | 0.06               | -               | 0.03  | 0.03            | 0.05    |
| Fill / Topsoil              | GSW <sup>3</sup>                  | 0.8   | 2.1             | 1.0     | 0.8  | 0.6                | 0.9             | 0.7   | 0.8             | 0.8     |
| Residual                    | VENM <sup>4</sup> / GSW           | 2.1   | -               | 2.0     | 1.9  | 1.5                | 2.1             | 1.3   | 1.3             | 4.0     |
| Rock Unit 1<br>Class V      | VENM <sup>4</sup> / GSW           | 2.75  | 2.8             | 4.35    | 2.8  | 1.7                | 3.5             | 2.0   | 1.6             | 6.6     |
| Rock Unit 2<br>Class IV     | VENM <sup>4</sup> / GSW           | -     | -               | 8.7     | -    | -                  | 5.25            | -     | -               | 10.5    |
| Rock Unit 3<br>Class IV-III | VENM <sup>4</sup> / GSW           | -     | -               | >10.0   | -    | -                  | >7.5            | -     | -               | >11.15  |
| End Depth of Borehole (m)   |                                   | 2.75  | 2.8             | 10.0    | 2.8  | 1.7                | 7.5             | 2.0   | 1.3             | 11.15   |

1 Depths are taken are referenced from the ground surface level at the time of the investigations. This level may vary due to demolition or filling processes as part of the Stage 3 construction works.

2 Fill at BHA classifies as Special Waste (Asbestos). Extent of affected soil to be determined by qualified hygienist.

3 General Solid Waste.

Virgin Excavated Natural Material. 4

# **TABLE 12** SUMMARY OF UNIT DEPTH AND SOIL CLASSIFICATION AT **INDIVIDUAL BOREHOLE** LOCATIONS

Phase I & II ESA Stage 3A Development - Penrith Health Campus Health Infrastructure NSW

j:\geo\2010\107622059 health infrastructure\_penrith nepean hospital 3a\correspondence out\enviro appendices\appendix h results tables\107622059\_003\_rev0\_appendix h.docx





# APPENDIX I QA/QC Report





# **1.0 INTRODUCTION**

Golder Associates Pty Ltd (Golder Associates) has undertaken a review of data quality for the Site investigation works associated with the Stage 3A development of the Penrith Health Campus. The review includes an assessment of the soil sampling procedures and the laboratory analysis results provided by Envirolab Services Pty Ltd (ELS).





# 2.0 SAMPLING METHODOLOGY

Sampling was carried out in accordance with Golder standard sampling procedures.

# 2.1 Sampling Team

The sampling was undertaken by Engineering Geologist Ben Caruana and Environmental Scientist Mitch Blencowe based in the Sydney office of Golder. Soil samples were collected on 29<sup>th</sup> and 30<sup>th</sup> April 2010 and 3<sup>rd</sup> and 15<sup>th</sup> May 2010.

# 2.2 Sampling Containers

During soil sampling, Golder Associates used new glass jars provided by the laboratory. Sample containers are generally in accordance with protocols published by the US EPA SW - 846 (US EPA, 1986).

During groundwater sampling, Golder Associates used new amber glass and plastic bottles provided by the contracted laboratory (ELS). Sample containers were supplied by the lab and were generally in accordance with protocols published by the APHA Standard Methods for the Examination of Water & Wastewater (USA APHA, 20<sup>th</sup> Ed.). The water samples were placed in different types of containers with different preservatives for different analytes, this includes:

- 1000ml unpreserved amber glass bottle for TPH and PAH analytes;
- 150ml plastic, nitric acid (HNO<sub>3</sub>) preserved bottle for metals analytes; and
- 40ml vials, hydrochloric acid (HCL) for BTEX and C<sub>6</sub>-C<sub>9</sub> TPH analytes.

Containers were labelled to include the following information:

- Project number;
- Location of the sample collected (including borehole ID and sample depth);
- Date of sample collection; and
- Initials of the sampler.

# 2.3 Chain of Custody (COC) Documentation

A chain of custody record accompanied all samples sent to the laboratory. A copy of this record was kept with the field file and then transferred to the project file when field personnel re-entered the office. The chain of custody records contained the following information:

- Sample identification (location and depth);
- Project title/location;
- Date of sampling;
- Sample matrix/ type;
- Signature and name of sampler;
- Number of containers;
- Analysis requested;
- Laboratory used; and
- Specific comments and remarks.

Copies of the signed COC are presented with the laboratory certificates in Appendix G.

# 2.4 Sample Splitting Techniques (Duplicates)

The collection of a duplicate in the field was conducted at the same time as the collection of the primary sample, and sample jar was labelled using a predetermined numbering system to enable later identification. A duplicate was collected by taking samples at the same depth interval and the same geology strata from the sampling device and dividing it into two parts. The samples were placed in two separate containers for laboratory analysis. Three soil duplicates were collected during the fieldwork as follows:

- DUPA (soil) is a duplicate of sample BH13-3 (depth 1.0-1.1m);
- DUPB (soil) is a duplicate of sample BH5-1 (depth 0.15-0.25m);
- DUPC (soil) is a duplicate of sample BH8-1 (depth 0.0-0.1m);
- DUPD (soil) is a duplicate of sample BH10-2 (depth 0.3-0.4m); and
- DUPA (groundwater) is a duplicate of sample BHI.

# 2.5 Sampling Devices and Methods

Soil samples were collected directly from SPT tubes or directly from the auger. A new set of disposable Nitrile gloves were used for each sampling interval. Immediately after collection, samples were placed in new jars and stored in ice chests in the field for transit to the laboratory.

The majority of the samples were collected in duplicate. The primary sample was retained for selection of samples for laboratory analysis. The duplicate sample was collected in sealed plastic bag for screening of volatile organic compounds (VOCs) using a photo-ionisation detector (PID).

Groundwater samples were obtained by using a low flow peristaltic pump, with new disposable plastic and silicon tubing. A new set of disposable Nitrile gloves were used to collect the sample. Immediately after collection, the sample was placed in new containers provided by the laboratory with the appropriate preservatives and stored in ice chests in the field for transit to the laboratory.

Golder Associates' validation of the field work undertaken for the sampling of soil has been conducted under the Golder Associates Quality System which operates in accordance with ISO 9001:2000 and ISO 14001:1996.

# 2.6 Sample Preservation, Handling and Transport

After sampling, sample containers were stored in ice chests and kept cold and transported to Golder Associates office for sorting and selection of samples prior to dispatch to the laboratory under appropriate Chain of Custody (CoC) documentation. Authorised laboratory personnel were required to confirm the integrity of the samples on receipt by signing and dating the chain of custody forms. No preservation chemicals were required for the soil samples.

# 2.7 Field Screening

The PID is a useful instrument to detect the presence of VOCs especially petroleum hydrocarbons and solvents, which are commonly encountered contaminants.

Field samples were collected in duplicate. The duplicate samples were sealed and screened for the presence of volatile organic compounds using a Minirae 2000 photoionisation detector (PID), fitted with a 10.6 eV lamp. Prior to use the PID was calibrated in accordance with the manufacturer's instructions using standard isobutylene gas at concentrations of 99.9 ppm. A copy of the calibration certificate is included in Appendix J.

The soil sample was collected in a sealed plastic bag filled to half its capacity. The bag was then shaken and allowed to stand for about 5 minutes. The inlet of the PID nose tube was then introduced through the plastic bag and the maximum reading on the display recorded.

Although the PID is useful in detecting 'hot spots' and provides qualitative information on the potential for contamination with volatile compounds, the technique has several limitations:





- The PID works on the principle of ionisation of a compound using an ultraviolet lamp. The lamp must have energy higher than the ionisation potential of the compound to be detected. The ionisation potential of a compound is the minimum energy that the compound needs to be ionised. Hence if the PID is fitted with a lamp with energy of 10.6 eV, it will ionise compounds with ionisation potentials less than this value. Hence it is important to have some prior indication of the contaminants of concern on the Site;
- The PID will respond cumulatively to multiple compounds simultaneously. The PID reading is the additive concentration of all the compounds present. Hence even if the PID reading is relatively high, the concentrations of the several individual compounds which have contributed to the reading may be relatively low;
- Each compound has a 'response factor' (the response obtained per mole of the compound being detected) which depends on the degree of ionisation and the number of ions produced. Hence the response of the PID will vary for different compounds;
- The nature of the soil is an important factor in the process of partitioning the contaminant between the soil matrix and the headspace. The concentration of a contaminant in the headspace will be much higher in a sample of contaminated sand from which the contaminant is easily released compared with the concentration of the contaminant in a clay to which the contaminant may be more strongly adsorbed; and
- The method of screening varies and there is currently no industry standard adopted. The method used for the present assessment has been found to provide results that are appropriate for the collection of field screening data for site contamination assessments.

# 2.8 Decontamination

Soil samples were collected directly from the SPT splits or directly from the auger using a new pair of disposable nitrile gloves for each sample. The SPT splits and auger lengths were decontaminated at intervals between sampling events using Golder standard decontamination procedures as set out in the Golder Associates Environmental Field Manual. This included washing the hand auger and SPT splits in a solution of phosphate free detergent DeCon 90<sup>©</sup> and then rinsing with demineralised water prior to reuse.

The water monitoring equipment used included a 90FLMV multi-parameter water meter (measuring pH, temperature, EC, redox potential and DO) and water level meter. The equipment was rinsed with water between each location to minimise cross-contamination.

Decontamination of groundwater sampling equipment was not required as samples were collected with dedicated tubing for each groundwater monitoring well. The peristaltic Geo-pump<sup>®</sup> does not come into contact with the sample as it utilises dedicated silicon tubing for each individual monitoring well.



# 3.0 SCOPE OF DATA QUALITY ASSURANCE REVIEW

# 3.1 Data Quality Measures and Objectives

The data quality measures for the assessment are as follows:

**1. Accuracy:** A measure of the closeness of the results to the actual values. Accuracy is assessed through the comparison of results produced by the primary and secondary laboratories for the same sample and by the measuring of the extent to which an analytical result reflects the known concentration as measured by the recovery obtained from internal laboratory spikes. Acceptable data are obtained when samples are collected and analysed in accordance with the quality control procedures and the data quality objectives i.e. spike recoveries for metals (70-130%) and organics (60-140%) that affect data quality are not exceeded.

**2. Precision:** A measure of the repeatability of results by the laboratory. This is assessed through the analysis of internal duplicates.

**3. Completeness:** The percentage of acceptable data obtained compared to the amount of data needed to achieve a particular level of confidence in the results.

The following data quality objectives have been set for this assessment program:

- Accuracy to be in the range for metal spikes 70-130% recovery and organic spikes 60-140% recovery;
- Accuracy to be in the range for organic surrogate spikes of 60 to 140%;
- Accuracy/precision to be in the range for internal laboratory duplicates <50%;</li>
- Precision to be an average of +/- 50% Relative Percentage Difference (RPD);
- Method blanks less than Laboratory Reporting Limits (LRLs);
- Duplicates will each be collected at a frequency of at least 1 in 10;
- Overall completeness should be a minimum of 95%; and

Limits of Reporting (method sensitivity) should be a maximum of 1/5, and preferably 1/10 of the acceptance criteria concentration.

Golder consider that the data quality objectives have been satisfied when data completeness is greater than 95%. A data completeness of less than 95% may be accepted where it can be justified based on unique issues such as:

- The prevailing site conditions;
- Data confidence "certainty" required; and/or
- The testing methods adopted.

In order to assess these objectives, a quality assurance plan has been implemented for both the field sampling and laboratory components of the sample collection and analysis. The following outline the general requirement for the project in more detail and provides the basis for the review of the quality assurance aspects of the assessment.

# **3.2 Field Quality Control Procedures**

#### 3.2.1 Sampling Procedures

A general outline of the QC procedures for assessment and sampling are indicated below:

 All soil sampling was undertaken in general accordance with Golder Associates' standard internal procedures;



- Field duplicates were collected at a rate of 10% or greater of total samples collected during the fieldwork program; and
- Samples were placed in appropriate sample containers, which were clearly labelled. Sample containers were placed in suitable storage containers and kept cool using ice packs for transport to the laboratory. Chain of custody forms were completed and transported to the laboratory with the samples and are provided in Appendix G.

#### 3.2.2 Assessment of Primary Duplicates

The Primary Duplicates are duplicate samples of the same sample collected during sampling. The Primary Duplicates are labelled differently to the Primary Sample and both are submitted to the primary laboratory for analysis. The Primary Duplicate provides a measure of the precision of the primary laboratory results. This comparison provides an assessment of the primary laboratory's accuracy. Primary Duplicates are required to be collected at a frequency of at least 1 in 10 in accordance with Australian Standard AS4482.1-2005.

The Primary Duplicate results are compared with primary sample results using Relative Percentage Differences (RPDs). RPDs are calculated according to the following formula:

$$\% RPD = \left| \frac{A - B}{A + B} \right| \times 200$$

Where: A is the concentration of the primary laboratory result per analyte and B is the corresponding duplicate result.

RPD values can lie in a range from 0% (indicating perfect correlation between results) to 200% (indicating a large divergence in results).

In calculating RPD values, the following protocols have been adopted according to the particular circumstance:

Where the laboratory has reported results below the detection limit for both the sample and duplicate for a particular analyte, the RPD has not been calculated;

Where the laboratory has reported results below the detection limit for either the sample or the duplicate, a RPD has been calculated. This is performed by using the laboratory limit for the undetected sample, and comparing that to the concentration of the detected sample;

Where the laboratory reports detectable amounts of a contaminant in both the sample and duplicate a RPD has been calculated and tabulated; and

In accordance with the Australian Standard (AS4482.1-2005), acceptably precise results are indicated by better than +/- 50% Relative Percentage Difference (RPD) between primary laboratory duplicates.

# 3.3 Laboratory Internal Quality Assurance

The laboratory used for the site investigation works was required to be NATA registered for the analyses undertaken. The laboratory was required to conduct their own internal quality procedures to verify their results. A percentage of the sample population was tested against measurable standards to check that methods and results are within acceptable limits. Spike samples, internal duplicates, surrogate spikes and method blanks were required to be used in the laboratory testing programmes to support reported results. Details of these results appear in the endorsed results supplied by the laboratory.

#### 3.3.1 Internal Duplicates

The primary laboratory, as part of their internal quality assurance, are required to analyse one laboratory duplicate per analytical batch or per 20 samples, which ever generates the greater number of laboratory duplicates. The duplicates provide a measure of the precision of the particular analytical method(s) and



techniques used by the laboratory. The duplicates are assessed using the RPD calculation as for field duplicates.

#### 3.3.2 Spike Recovery

In order to ascertain whether laboratory techniques and equipment are suitable for detecting concentrations of particular analytes, samples are analysed for a known quantity of a particular analyte. The primary laboratory, as part of their internal quality assurance, is required to analyse one laboratory spike per analytical batch or per 20 samples, whichever generates the greater number of laboratory spikes. The spikes provide a measure of the precision of any particular analytical method(s) and techniques used by the laboratory. The results of this testing should show a high level of agreement between the measured result and the dosed concentration. An acceptable level of correspondence is achieved when measured values lie within the range 70-130% for metals and 60-140% for organics of the dosed concentration. A high level of correspondence gives confidence in the precision of the laboratory techniques.

#### 3.3.3 Surrogate Spikes

Surrogate spikes are added to all samples requiring analysis for organics prior to extraction. They are used to determine the extraction efficiency. Surrogates are organic compounds which are similar to the target in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples. An acceptable level of extraction efficiency is 60 to 140%.

#### 3.3.4 Method Blanks

Method blanks are performed to verify that none of the concentrations reported are as a result of an analyte being contained in solvents or glassware, or through cross contamination during sample preparation and handling. The laboratory is required to analyse one method blank per analytical batch or per 20 samples, whichever generates the greater number of method blanks. Results from method blank analysis should be less than the limit of reporting for the laboratory across all test groups.

### 3.4 Assessment of Quality Assurance

An assessment of the quality assurance program is required to be made in terms of completeness. The completeness is equal to the percentage of valid quality assurance and quality control results. The quality assurance and quality control results that meet the acceptance criteria include all RPDs less than 50%, spikes falling in the range of 70% to 130% for metals and 60-140% for organics, internal laboratory metals and organics duplicates <30% and blanks below reporting limits. Overall completeness should be a minimum of 95%.

Where any of the above objectives are not achieved for particular samples, data qualifiers detailing the nature of the quality problem will be attached to data in the results tables, or steps taken to rectify the non conformance, if possible.



# 4.0 GENERAL QUALITY ASSURANCE PROCEDURES

Golder's validation of the field work undertaken for the assessment of soil has been conducted under the Golder Associates Quality System which operates in accordance with ISO 9001:2000 and ISO 14001:1996.

- Samples were carefully collected in the field to minimise the possibility of cross contamination. Where
  appropriate, tools and equipment were rinsed, washed and rinsed again with de-mineralised water,
  according to Golder Procedures;
- The collection of duplicates in the field was conducted at the same time as the collection of the primary sample, and sample jars were labelled using a predetermined numbering system to enable later identification. The use of constant identification numbers served to make the labelling and identification of samples more consistent and allowed for ease in data manipulation during subsequent analysis; and
- Samples were collected in the field and placed into cool-boxes with ice until they were submitted to a NATA endorsed laboratory for analysis. A Chain of Custody form detailing the required analysis accompanied samples delivered to the laboratory.

Copies of the laboratory testing certificates for the primary laboratory for all samples are included in Appendix G. The laboratory certificates show the results of the sample analyses and the internal laboratory testing.

# 4.1 Assessment of Field Quality Assurance

### 4.1.1 Primary Duplicates

The primary soil and groundwater duplicates were tested for a range of analytes consistent with the analytical program for the primary samples. A list of all analytes tested in the primary soil duplicate is presented in the main report and duplicate results are summarised in Table 11. A summary of the duplicate analysis rates is presented in Table I1 below.

A total of 44 primary samples (40 soil and 4 groundwater) were submitted for laboratory analysis of various contaminants of concern.

| Analyte                       | No of Primary Samples | Intra-laboratory<br>Duplicates (Dup) | Intra-Laboratory<br>Duplicates Rate % |
|-------------------------------|-----------------------|--------------------------------------|---------------------------------------|
| Metals                        | 44                    | 5                                    | 11.4%                                 |
| Metals TCLP                   | 3                     | 0                                    | 0.0%                                  |
| TPH                           | 44                    | 5                                    | 11.4%                                 |
| BTEX                          | 44                    | 5                                    | 11.4%                                 |
| PAH                           | 44                    | 5                                    | 11.4%                                 |
| OCP                           | 40                    | 4                                    | 10.0%                                 |
| PCB                           | 40                    | 4                                    | 10.0%                                 |
| Asbestos                      | 13                    | 0                                    | 0.0%                                  |
| Overall Duplicate<br>Analyses | 272                   | 28                                   | 10.3%                                 |

#### Table I1 – Duplicate Analysis Rates

The analysis rate for intra lab duplicates for soil was 10.3%, is above the target of 10% and is thus considered acceptable for ensuring good data quality.

The results of duplicate analysis were assessed by calculating the RPDs between the primary and duplicate samples. An RPD of 0 % represents perfect agreement in results while the maximum level of divergence is reflected in an RPD value of 200%. RPDs cannot be calculated if both results are below the laboratory detection limits. RPDs values are summarised in Table 11.



Of the 36 RPDs that could be calculated, 35 values were below the recommended DQO of 50%. Based upon these results the data collected are considered to be of acceptable quality for the purposes of this investigation.

# 4.2 Assessment of Laboratory Quality Assurance

In addition to Golder Associates' quality assurance procedures, the primary laboratory conducted its own quality procedures to verify their results. A percentage of the samples analysed were tested against measurable standards to check that laboratory methods were working within acceptable limits, spike samples, internal duplicates and method blanks were all used in the laboratory testing programs to support reported results.

## 4.2.1 Laboratory QA/QC Results

#### **Holding Times**

Review of the analytical certificates indicates that analyses were performed within the required holding times.

#### **Internal Duplicates**

The primary laboratory ELS performed duplicate testing as part of their internal QA requirements. RPDs were able to be calculated for 53 duplicate pairs. 51 of the RPDs met the acceptance criterion of less than 50%, with 2 duplicate pairs exceeding the criterion.

#### LCS Spike Recovery

A total of 193 laboratory control sample spike recovery tests were conducted by the laboratory (ELS). A review of the results indicates that all samples provided a recovery within 70-130% for metals and 60-140% for organic compounds.

#### **Surrogate Spike Recovery**

A total of 269 surrogate spike recovery tests were conducted on the soil samples analysed by the laboratory. A review of the results indicates that all recovery results were within the adopted criterion range of 60-140%.

#### **Method Blanks**

The primary laboratory method blanks were tested for the range of contaminants that were analysed in each batch, as determined from the COC documentation accompanying the samples. A total of 103 tests were conducted on the blanks analysed by the primary laboratory, with all results reported below the laboratory reporting limits. Overall, the method blank results indicate satisfactory hygiene in sample preparation and analysis.

# 5.0 ASSESSMENT OF THE OVERALL QUALITY ASSURANCE PROGRAM

An assessment of the Golder Associates quality assurance program for the soil investigation works has been made in terms of completeness. The completeness is equal to the percentage of valid quality assurance and quality control results. The quality assurance and quality control results that meet the acceptance criteria include all RPDs less than 50%, spikes falling in the range of 70-130% for metals and 60-140% for organics, duplicates <30% for metals and organics and blanks below detection limits. An overall summary of results of the quality assurance program is presented in Table I2.



| QC Sample Type                    | No. of Results Not<br>Meeting DQIs | Total No. of Results | Proportion of Results<br>Meeting DQIs |
|-----------------------------------|------------------------------------|----------------------|---------------------------------------|
| Internal Laboratory<br>Duplicates | 2                                  | 53                   | 96.2%                                 |
| Laboratory Spikes                 | 0                                  | 193                  | 100%                                  |
| Laboratory Surrogates             | 0                                  | 269                  | 100%                                  |
| Laboratory Blanks                 | 0                                  | 103                  | 100%                                  |
| Overall Completeness              | 2                                  | 618                  | 99.7%                                 |

#### Table I2: Summary of QA/QC Completeness

Overall, the quality assurance measures exceed the adopted 95% completeness target for the project, and the analytical data is considered to provide sufficient basis for conclusions relating to the investigation of the Site.

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# **APPENDIX J**

Limitations





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