Limited Environmental Site Assessment – Portion of Former Hillcrest Hospital Site, Hilltop Drive, Hillcrest

18 June 2010

Land Management Corporation

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Approved by: JBC.....

Signed: .....

Date: 18 June 2010.....

Distribution: .....

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Our reference 2160919A/E Cruickshanks-Boyd/cls

18 June 2010

Kathryn Heitmann
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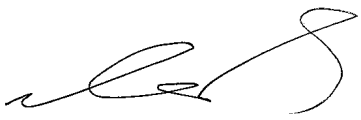
Dear Kathryn

Limited Environmental Site Assessment – Portion of Former Hillcrest Hospital Site, Hilltop Drive, Hillcrest

Parsons Brinkerhoff (PB) is pleased to provide a report on the Limited Environmental Site Assessment undertaken at the above site.

If you have any queries in relation to this report, please do not hesitate to contact the undersigned on (08) 8405 4300.

Yours sincerely



Eddie Cruickshanks-Boyd
Environmental Scientist
Parsons Brinckerhoff Australia Pty Limited

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1. Introduction

1.1 Background information

PB was commissioned by Land Management Corporation (LMC) on behalf of the Department of Health in March 2010 to undertake a Limited Environmental Site Assessment (ESA) for a site identified as Volume 5821, Folio 613 and Volume 585, Folio 555, comprising Allotment 361 – Deposited Plan 48652 and Allotment 100 – Deposited Plan 57331, located at Hilltop Drive, Hillcrest, South Australia (the site). Allotment 365 comprises of a stormwater drainage channel and detention pond located between the northern portions of Allotment 361 and Allotment 100 and is not part of the assessment site. It is understood that the site is currently vacant and is surplus to the Department of Health requirements. For the purpose of the investigation the site has been divided into the northern portion of land comprising a paddock used for agricultural purposes and the southern portion of land which historically comprised portion of the former Hillcrest Hospital. The northern and southern portions of the site are divided by a wire fence line.

Previous investigations at the site, or including portions of the site, have included a Phase 1 ESA and preliminary testing conducted by Rust PPK (1994), a Phase 1 ESA for the Strathmont Centre (including portion of the site) conducted by GHD (2003) and a Site History Report (Phase 1 ESA), incorporating the current site, conducted by Connell Wagner (2006). The preceding investigations are summarised in greater detail within Section 2 of this report.

This work was undertaken in accordance with the LMC project brief dated 9 March 2010 and PB's proposal (Proposal for Environmental Services – Portion of Former Hillcrest Hospital), dated 19 March 2010, as approved by LMC.

1.2 Objectives

The main objectives of the Limited Phase 2 ESA were to:

- review site history (Phase 1) information
- assess the status of soils on both the northern and southern portions of the site prior to the proposed disposal of the site
- assess the potential risks to humans and the environment from any soil contamination detected within the northern and southern portions of the site
- assess the extent of areas suspected to contain buried demolition material in the southern portion of the site and the nature of the materials (i.e. presence or absence of asbestos containing materials and geotechnical properties); and
- provide recommendations for the requirement of further investigations works and/or remedial options if unacceptable risks are identified.

2. Site history investigations

2.1 Summary of previous site investigations

2.1.1 Report on potential environmental issues and preliminary testing (PB, 1994)

The results of a Phase 1 ESA and preliminary testing previously undertaken for the entire Hillcrest Hospital site were detailed in the following report:

- RUST PPK (December 1994) *Report on Potential Environmental Issues and Preliminary Testing at the Hillcrest Hospital, Fosters Road, Gilles Plains, SA.* Report No. 94/730 27F358A.

Rust PPK were commissioned by the Resource Conservation and Management Group of the Department of Environment and Natural Resources to investigate and report on the potential site contamination and other issues relating to the historical and current site activities on a 46 hectare section of the Hillcrest Hospital and a 2.3 hectare section of the Strathmont Centre (Intellectual Disability Services Council).

The scope of works initially involved a site history investigation (Phase 1 ESA) followed by a limited sampling and testing program comprising of thirteen locations across the site which targeted suspected disposal areas for coke ash from the on-site boilers and areas of historical market gardens and orchard areas.

The site history investigation identified that prior to 1926 the site was primarily used for agriculture in the form of growing cereal crops and grazing. In 1917 the land was acquired by the State Government and dedicated for the Northfield Mental Hospital which later became the Hillcrest Hospital. Development of the hospital was undertaken progressively from 1926. A number of market gardens and orchards were known to have been established at various locations across the hospital site.

Sampling points relevant to the current site area (Allotments 361 and 100) included two locations in the northern hospital paddock (Sample points 12 and 13) which were analysed for arsenic, heavy metals and organochlorine pesticides. The analytical results for these two samples were reported below the then current investigation levels.

The scope also included an investigation into areas of suspected burial of building rubble including a portion of land north of the former Ward 3 Building. Buried building rubble was identified in this portion of the site approximately 0.3 metres below ground level and extended to a depth greater than 1.7 metres. At the time no evidence of chemical contaminants was noted.

The following potentially contaminating activities were reported to have occurred at the hospital site and are relevant to the allotments included within the current investigation:

- areas associated with possible coke ash disposal from the former hospital building boilers (both individual building boilers and the central boiler plant installed in 1961)
- areas where burial of building rubble had occurred
- underground steam and condensate pipes associated with the old central boiler house that may have possibly been insulated with material that may contain asbestos
- areas that were formally occupied by cropping, market gardens or orchards
- areas of filling with uncontrolled fill materials from unknown origin

- areas of possible spot treatment for white ants, black ants and bull ants
- the area of a former electrical substation
- areas that were formally bituminised including roadways, paths and car parks
- areas of potential discharge/leakage of boiler feed water that may have contained toxic substances to prevent scaling and minimise maintenance.

2.1.2 The Strathmont Centre, Condition Audit, Phase 1 Environmental Site Assessment (Site History) Report (GHD, 2003)

The results of a Phase 1 ESA previously undertaken for the Strathmont Centre site were detailed in the following report:

- GHD (December 2003) *The Strathmont Centre, Condition Audit, Phase 1 Environmental Site Assessment (Site History) Report,* Report No 33/11887/10587

The Phase 1 ESA was undertaken by GHD for the Department of Administrative and Information Services as part of a condition audit of the Strathmont Centre and selected adjacent land parcels. The site assessed in the above Phase 1 ESA was the Strathmont Centre to the east of the Hillcrest Hospital but also included allotments 361 and 100 which comprise the current investigation area.

The site history investigation identified that the site was primarily used for cropping and grazing and later large portions were developed into a hospital and social services complex by the South Australian Government.

The following potentially contaminating activities were reported to have occurred at the Strathmont Centre or the adjacent land parcels and are relevant to the allotments included within the current investigation:

- importation of fill materials of unknown origin
- boiler operation and potential coke ash disposal
- building demolition
- raw sewerage disposal within drainage channel in allotment 365 (anecdotal)
- handling and use of herbicides
- anti-termite treatment of soils (inferred)
- use of incinerator (anecdotal)
- paint and solvent storage (anecdotal)
- fuel, oil and lubricant storage in drums
- motor vehicle parking, servicing and washdown
- use of asbestos containing piping, insulation and building products
- use of asphalt paving.

2.1.3 Proposed Oakden Mental Health Facility Site History Report (Connell Wagner, 2006)

The results of a Phase 1 ESA previously undertaken for the Strathmont Centre site were detailed in the following report:

- Connell Wagner (February 2006) *Proposed Oakden Mental Health Facility Site History Report,* Report No J188 1E, Revision 01.

The Phase 1 ESA was undertaken by Connell Wagner for the Department of Administrative and Information Services. The site assessed in the above Phase 1 ESA included allotments 361 and 363.

For the purpose of the site history information the site was divided into a northern portion and the southern portion. The northern portion has been utilised for cropping and grazing with the only activity being the filling of the original drainage creek and the excavation of a new drainage creek and detention basin. The southern portion of the site was utilised for cropping and grazing prior to this portion of the site being developed for the hospital from at least 1949. Development increased until 1968 and hospital use continuing until sometime prior to 1999 when the buildings were demolished. During the hospital use of the site cropping and grazing continued over various portions of the site.

The following potentially contaminating activities were reported to have occurred at site and are relevant to the allotments included within the current investigation:

- cropping and agricultural activities – northern and southern portion
- importation of fill material of unknown origin – northern paddocks
- contamination of former stormwater runoff channel
- use of asphalt surfacing for former roads
- building demolition debris burial on-site
- importation of fill material of unknown origin – southern hospital portion
- chemical treatment of soils for termites
- contamination from off-site source – former boiler house to immediate south of the site
- chemical control of weeds (inferred).

2.2 Aerial photography review

Copies of relevant portions of aerial photographs of the area taken in ten year intervals from 1949 were supplied by LMC.

A summary of the features identified within each of the aerial photographs is provided in Table 2.1.

Table 2.1 Aerial photograph review

Year	Description
January 1949	**Site Layout:** The northern portion of allotment 361 and the entire allotment 100 appear to be utilised for cropping and agricultural purposes. The south western portion (leg) of allotment 361 contains one large hospital building (Ward 3) and associated gardens located along the eastern perimeter boundary. A small shed and possible market garden area is also visible in the south west corner of allotment 361. **Surrounding Area:** The surrounding area comprised agricultural land use believed to be predominantly cropping to the north, east and west. Land use to the south of the site appears to be utilised by a mixture of hospital buildings, an oval, gardens and open space.

Year	Description
January 1959	**Site Layout:** The northern portion of allotment 361 and the northern portion of allotment 100 appear to remain cropping land with a drainage channel of near north-south orientation evident in the north-west section of allotment 361. The southern section of allotment 361 and allotment 100 appear to be utilised for two large hospital buildings (Ward 3 and Ward 9). Associated with the hospital building appears to be a number of road and paths of an unknown seal. **Surrounding Area:** The surrounding land use appears to remain consistent with the January 1949 aerial photograph with the exception of the expansion of the Hillcrest Hospital complex to the south.
November 1968	**Site Layout:** As per the 1959 aerial photograph with the exception of a number of what appear to be bitumen sealed roadways are visible connecting the numerous hospital buildings located on the southern portion of allotments 361 and 100. **Surrounding Area:** The surrounding land use appears to remain consistent with the 1959 aerial photograph with the exception of what appears to be the filling of land occurring on former cropping land immediately west of the site and the development of the electricity substation to the immediate west of allotment 361.
March 1979	**Site Layout:** As per the 1968 aerial photograph with the exception of a number of what appears to be an unsealed car park located immediately to south of the Ward 9 building and the construction of a sealed bitumen road located to the north of Ward 9 connecting the Hillcrest Hospital to the newly constructed Strathmont Centre. **Surrounding Area:** The surrounding land use appears to remain consistent with the 1968 aerial photograph with the exception of further development of the Strathmont Centre to the immediate east of allotment 100 and the development of what is believed to be a segment of the Yatala Prison development to the immediate north of allotment 100.
September 1989	**Site Layout:** As per the 1979 aerial photograph. **Surrounding Area:** The surrounding land use appears to remain consistent with the 1979 aerial photograph with the exception of the construction of James Nash House to the south and east of allotment 361.
September 1999	**Site Layout:** All on-site buildings appear to have been demolished prior to the 1999 aerial photograph. Hillcrest Hospital buildings Ward 1 and James Nash House remain on adjacent allotments. The majority of bitumen sealed roads located on-site appear to have been excavated. A small building or slab appears to remain within allotment 361 immediately north of the Ward 1 building (allotment 359). **Surrounding Area:** As per 1989 aerial photograph with the exception of a number of Hillcrest Hospital buildings located to the south of the site also being demolished and the further expansion of the Yatala Prison Complex to the north of allotment 100.
January 2005	**Site Layout:** As per the 1999 aerial photograph with the exception of the southerly extension of the drainage channel bordering allotments 361 and 100. **Surrounding Area:** As per the 1999 aerial photograph.

2.3 Site inspection

2.3.1 Northern portion

A site inspection was conducted on the 7 April 2010 and involved a site walkover by a PB environmental scientist to observe general site features and conditions. The northern portion of the site was clear of any significant vegetation (other than grass or weeds) and buildings and appeared to be utilised for cropping purposes. The topography of this portion of the site was a gentle slope to the north with an additional slope to a stormwater channel which traversed the central portion of the paddock in a general north-south orientation. At the north end of the channel, along the boundary with Grand Junction Road, a stormwater detention basin had been excavated to slow water flow prior to entering pipes under Grand Junction Road.

The northern portion of the site was bounded with a wire and perma-pine post fence. Adjacent land uses included the Yatala Women's Prison to the north, a large electrical substation to the west, the northern portion of the former Hillcrest Hospital site and the existing James Nash House to the south and the Strathmont mental health facility and a fire station to the east.

2.3.2 Southern portion

The southern portion of the site is generally flat with the northern portion sloping towards the paddock to the north. The southern portion of the site has been cleared of all historical hospital buildings with the exception of the heritage listed mortuary located in the south west corner. A number of large bushes and trees are located across the site with the greatest density present in the north east portion of the site.

Derelict infrastructure and services traverse this portion of the site and include bitumen roadways, path/roadway lighting, stormwater pipes and other underground services and a number of concrete foundation slabs on the western side of the site. Illegal dumping of residential and construction wastes has occurred at various locations and includes potentially asbestos containing fibre cement pipe and bitumen dumped in the western portion of the site. The stormwater channel located in the northern paddock also extends on to the central northern area of the southern portion of the site.

The southern portion of the site is bounded to the north and south by wire and cyclone mesh style fences and to the east and west by colour-bond sheet fencing. Surrounding land uses include the Strathmont centre to the east, a school and the former Hillcrest Hospital to the south, the former Ward 1 building and James Nash House to the west and the northern portion of the site to the north.

2.4 Summary and likely significance of potentially contaminating activities

Based on the information within the previous reports and the site inspection, a summary of the potentially contaminating activities relevant to the current investigation area, including potential contaminants, likely locations and possible significance, is provided in Table 2.2.

Table 2.2 Summary of potentially contaminating activities

Potentially Contaminating Activity	Potential Contaminants	Likely Locations	Possible Significance
Coke ash disposal from former boilers	Hydrocarbons including PAHs and heavy metals	Various but likely in the vicinity of former hospital buildings and central boiler plant.	Potentially major if ash from boiler has been discarded on-site in significant quantities. Contaminants of variable toxicity, mobility and persistence.
Boiler plant operation (off-site to south of Hilltop Drive)	Hydrocarbons and PAHs	Former boiler plant located just south of site and hilltop drive.	Potentially major if hydrocarbons have migrated towards southern site boundary in soil or groundwater. Highly persistent and moderately mobile contaminants.
Burial of building rubble from former hospital buildings	Asbestos and various building products	In the vicinity of former hospital buildings now demolished.	Potentially major significance. Given the age of the buildings asbestos containing building products are highly likely. Greater significance if friable asbestos products have been buried on-site. Asbestos is highly persistent and carcinogenic to humans.
Fuel storage in underground storage tanks (x 3)	Hydrocarbons, PAHs and lead	28.5 m west and 6.5 m south of south western corner of Mortuary building. 30.9 m west and 6.5 m south of south western corner of Mortuary building. 33.8 m west and 6.5 m south of south western corner of Mortuary building.	Potentially major significance. No documentation on removal of storage tanks and environmental monitoring. Moderately persistent and highly mobile contaminants. Potential impacts to deeper soil strata and groundwater.
Asbestos products utilised to insulate steam and condensate pipes from former boiler house	Asbestos fibres	In the vicinity of underground steam and condensate pipes feeding the former Ward 1, Ward 3 and Ward 9 buildings.	Potentially major significance if insulation materials containing asbestos have been disturbed and buried with building wastes. Unlikely to be a significant issue if pipes are removed in accordance with local regulations.
Cropping, market gardens, orchards or hospital garden maintenance	Pesticides and heavy metals	Entire site has been historically utilised for cropping with the southern portion utilised for market gardens, orchards and hospital gardens in the past.	Potentially moderate significance. Broad scale application most likely during current and historical cropping over entire site. Potentially greater significance in areas of market gardens or orchards historically conducted over southern portion of the site. Variable contaminant persistence and mobility.
Filling of land with fill material from unknown origin	Various including: heavy metals, PAHs, OCPs and hydrocarbons	Former drainage channel located in the northern hospital paddock and southern portion of the site in the vicinity of former hospital development.	Potentially major significance if elevated contaminant levels are identified. Previous site history reports have indicated uncontrolled filling of the site has historically occurred. Variable contaminant persistence and mobility.
Localised treatment for white ants and other pests	Arsenic, OCPs and OPPs	Soils surrounding and underneath former hospital buildings.	Potentially moderate significance. Application is likely confined to surface soils in the vicinity of former hospital buildings. Contaminants can be highly persistent but generally of low mobility.
Former electrical substation	Hydrocarbons and PCBs	Former No. 2 substation located at the south west corner of former Ward 9 building (southern end of allotment 361).	Potentially moderate significance. High contaminant persistence but if historical spills have occurred they are likely to be of relatively small volumes and confined to near surface soils.

Potentially Contaminating Activity	Potential Contaminants	Likely Locations	Possible Significance
Former areas of bitumen application including roadways, paths and car parks	Hydrocarbons and PAHs	Southern portion of site in the vicinity of former hospital development and roads.	Potentially moderate significance. High contaminant persistence and generally low mobility. Impacts would generally be confined to soils and fill material immediately below bitumen surfaces.
Discharge/leakage of boiler feed water	Unknown	Along known underground pipe locations feeding former Ward 1, Ward 3 and Ward 9 buildings.	Minor significance. Unknown contaminants and impacts likely to be localised to soils in the near vicinity of underground pipes.
Raw sewerage disposal in drainage channel located in the northern hospital paddock (anecdotal)	Metals and microbial organisms	Former drainage channel and current drainage channel (Allotment 365).	Potentially moderate significance. Variable contaminant persistence and mobility. Potential localised surface water and soil impacts with potential for groundwater contamination if significant quantities discharged.
Paint and solvent storage	Lead and VOCs	Paint store located in old mortuary building in southern portion of site.	Minor significance. Spillages would generally be of relatively small quantities and would be confined to surface soils. No anecdotal or field evidence of major spills.
Surface dumping of wastes	Various including asbestos	Various locations on the southern portion of the site	Moderate significance. Some asbestos cement debris is present on the site surface which will require appropriate removal and disposal prior to any site development.

3. Scope of work

The initial project task involved the review of site history reports relating to the site as summarised in Section 2 of this report, included a review of aerial photographs in ten year intervals from 1949 as provided by LMC.

The scope of the intrusive investigation program was tailored to the outcome of the review of the site history information summarised in Section 2 of this report.

A plan of the site, showing all soil sampling locations, is presented as Figure 1 (Appendix A).

3.1 Site investigations

Soil investigations, undertaken between 7 and 8 April 2010, involved a combination of systematic grid-based and targeted soil sampling. All sampling locations performed in the northern portion of the site were located based on a systematic grid based approach whilst sampling locations performed in the southern portion of the site were located based on both systematic grid based and targeted sampling. Whereas the systematic grid-based sampling was designed to provide an overall indication of site conditions, targeted sampling was undertaken in areas identified from the site history investigations to have a greater potential for contamination.

The soil sampling program involved the following:

- excavation of 19 test pits (TP01 to TP19) on a grid-based pattern within the northern portion of the site to a depth of 1 m
- excavation of two test-pits (TP20 and TP21) on a grid based pattern within the southern portion of the site to a depth of 1 m
- excavation of 9 targeted test pits (TP22 to TP30) within the southern portion of the site to depths of up to 1.6 m (refer to Section 3.2)
- collection of environmental soil samples from test pits at nominal depths of surface (i.e. 0.0-0.1 m), 0.5, 1.0 and 1.5 m adjusted suitably to ensure all soil horizons were sampled, as well as any additional depth intervals which exhibited visual or olfactory evidence of contamination
- collection of representative soil samples from selected test pits for subsequent geotechnical lab testing including particle size distribution (PSD), and California bearing ratio (CBR) within the southern portion of the site
- dynamic cone penetrometer (DCP) testing at nominated test pit locations within the southern portion of the site
- field screening of soil samples using a handheld photo-ionisation detector (PID) to evaluate the presence of volatile organic compounds (VOCs)
- a total of 30 targeted delineation pits were excavated in the southern portion of the site to determine the approximate extent of buried building demolition rubble within the three potential burial areas identified in the Rust PPK (1994) report

- two trenches were excavated in the southern portion of the site in the vicinity of the former Ward 1 and Ward 3 buildings with the objective of intersecting buried boiler pipes possibly lagged with asbestos containing materials; and

- four samples of potentially asbestos containing building materials were collected from buried building demolition rubble or from materials disposed of upon the site surface.

Soil samples which were not analysed were archived by the analytical laboratory for possible future use (i.e. within specified holding times).

No investigation of groundwater was included in the current scope of works.

The environmental laboratory analytical program was performed by a NATA accredited laboratory and consisted of the following:

Northern portion:

- 19 soil samples for a metals screen (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)
- 19 soil samples for organochlorine pesticides (OCP)
- 5 soil samples for polycyclic aromatic hydrocarbons (PAH)
- 2 soil samples for organophosphorous pesticides (OPP) and phenoxy acid herbicides
- 2 soil samples for a SA EPA Waste Screen (comprehensive).

Southern portion:

- 11 soil samples for a metals screen (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)
- 11 soil samples for OCP
- 5 soil samples for PAH
- 3 soil samples for phenols
- 2 soil samples for OPP and phenoxy acid herbicides
- 2 samples for a SA EPA Waste Screen (comprehensive)
- 1 soil sample for polychlorinated biphenyls (PCB).

In addition four potentially asbestos containing material samples were submitted for analysis in PB's in-house asbestos laboratory.

The geotechnical laboratory analytical program was performed by a NATA accredited laboratory and consisted of the following:

- 2 samples for soaked CBR testing
- 2 samples for PSD.

Geotechnical testing was only conducted on samples collected from the southern portion of the site.

3.2 Targeted test-pit rationale

The following table outlines the rationale behind the selection of the targeted sampling locations within the southern portion of the site. Such locations were selected based on the review of Phase 1 (site history) documentation and aerial photographs.

Table 3.1 Targeted test-pit location rationale

Sampling Location	Location/Rationale	Depth of Test-Pit
TP22	Located in close proximity to the former boiler house located south of what is now Hilltop Drive	1.4 m
TP23	Located adjacent to the former mortuary building later used to store paint and chemicals	1.5 m
TP24	Located in close proximity to the former underground storage tanks located to the east of the former Ward 1 building.	1.4 m (refusal on derelict service)
TP25	Located in close proximity to the former ETSA substation located at the south west corner of the former Ward 9 building	1.5 m
TP26	Located in proximity of bituminised road surface	1.0 m
TP27	Located in close proximity to the current stormwater drainage channel (note drainage channel is a separate allotment from the current site).	1.0 m
TP28	Located in the areas where burial of building demolition materials had anecdotally occurred.	up to 1.6 m
TP29		
TP30		

Note: A number of the above listed test-pit locations also resided within areas of historic market garden/orchard use of the site.

3.3 Quality control program

Quality control procedures undertaken as part of the soil sampling program are detailed in Table 3.2.

Table 3.2 Summary of soil QC program

Analyte	Number of Soil Samples Analysed			% Duplicate Samples Relative to Primary Samples	Number of Blanks Analysed	
	Primary	Field Duplicates (intra-lab)	Laboratory Splits (inter-lab)		Rinsate	Trip
Metals screen	30	2	1	10%	1	-
OCP	30	2	1	10%	-	-
PAH	10	-	1	10%	-	-
TPH	10	-	1	10%	-	1 (C_6-C_9 only)
BTEX	-	-	-	-	-	1

4. Methodology

Prior to the commencement of the field component of the intrusive investigations, a site specific Health, Environment and Safety Plan (HESP) was prepared. All personnel working at the site were required to read, understand, sign and conform to the HESP.

4.1 Soil sampling

Field methodologies adopted during the soil sampling program were consistent with PB ESA Field Procedures and have been summarised in Table 4.1.

Table 4.1 Soil investigation methodology

Activity	Details
Service Location	All excavated locations were checked for the presence of active buried services by a professional services locator before the commencement of the field investigations. In addition, underground service plans for the area were obtained prior to commencement of the investigations and were used to assist with locating underground services. It should be noted a number of abandoned services remained present beneath the site from the former Hillcrest Hospital.
Soil Collection Method	Test-pits were excavated by a contractor using a backhoe.
Soil Logging	Soil logging was based on field interpretation and was conducted with reference to AS 1726-1993.
Field Screening	Soil samples were screened in the field using a PID unit that was calibrated to a known concentration of isobutylene gas at the commencement of each day of field work.
Soil Sampling Method	Test pit soil samples were collected from the excavator bucket or test pit walls.
	Gloves were changed prior to the collection of each sample.
Sample Preservation	Soil samples were stored on ice in an insulated chest immediately after sampling. Samples were kept chilled prior to and during delivery to the laboratory.
Test-Pit Abandonment	Test pits were backfilled after excavation and wheel rolled to assist compaction.
Decontamination	Any sampling equipment utilised was cleaned between each sampling location using mains water and a phosphate free detergent (Decon 90).

4.2 Laboratory analysis

All primary and blind field (intra-laboratory) duplicate environmental samples were submitted to ALS for analysis. Laboratory split (inter-laboratory duplicate) environmental samples were submitted to MGT. Geotechnical samples were submitted to the Coffey Environmental Laboratory. Both environmental laboratories and the geotechnical laboratory were accredited by the National Association of Testing Authorities (NATA) for the analyses performed.

5. Screening criteria and background concentrations

5.1 Screening criteria

In order to assess the relative concentration and significance of any potential contaminants detected through laboratory analysis it is usual to reference established human health and environmental screening criteria. These contaminant screening criteria represent threshold concentrations of specific contaminants which, if exceeded in a particular sample, may pose a health or environmental risk and may therefore warrant further site specific investigation or risk analysis.

All criteria adopted for the assessment of the soil results are presented in the analytical results tables (Appendix B) and results exceeding the adopted criteria have been highlighted.

5.1.1 Soil

5.1.1.1 Health and ecological criteria

The *National Environment Protection (Assessment of Site Contamination) Measure* (NEPM, 1999) sets out the basis for assessing the significance of soil contamination. This NEPM has been adopted by the South Australian Environment Protection Authority as policy under Part 5, Section 28A of the *Environment Protection Act 1993*.

Where available, health-based soil screening criteria have been sourced from the NEPM (1999) Schedule B(1) *Guideline on the Investigation Levels for Soil and Groundwater* for the relevant land use (i.e. residential, open space and/or commercial/industrial land use). Since health-based guidelines are unavailable in the NEPM for certain analytes, alternative Australian and international health-based criteria have also been adopted.

Certain contaminants, including zinc and arsenic, are phytotoxic and the levels considered suitable for residential, open space and/or commercial/industrial land use land use may not afford protection to some species of plants if grown on the site. In order to consider the potential for phytotoxicity, as well other potential ecological impacts (e.g. to terrestrial organisms), contaminant concentrations have also been compared to ecological investigation criteria from the NEPM and alternative Australian sources (i.e. where NEPM criteria are absent).

A summary of the references used to source the health and ecological soil screening criteria is provided in Table 5.1 and the screening criteria adopted for assessing the contaminant status of soils at the site are detailed in Table 5.2.

Table 5.1 Sources of adopted soil screening criteria

Potential Sensitive Receptor	Reference
Human Health (HIL)	NEPM (1999) *National Environment Protection (Assessment of Site Contamination) Measure Schedule B1* - health based investigation levels for residential, parks/open space and commercial/ industrial land use (HIL-A, E or F values)
	NSW EPA (1994) *Guidelines for Assessing Service Station Sites* – sensitive land use criteria
	Netherlands Ministry of Housing, Spatial Planning and the Environment (2000) *Circular on Target Values and Intervention Values for Soil Remediation* - Dutch intervention levels
Ecological (EIL)	NEPM (1999) *National Environment Protection (Assessment of Site Contamination) Measure* – interim urban ecological intervention levels (EILs)
	ANZECC/NHMRC (1992) *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* – environmental soil quality guidelines
	NSW EPA (1994) *Guidelines for Assessing Service Station Sites* – sensitive land use criteria (including protection of terrestrial organism criteria for toluene, ethylbenzene and xylenes)

Table 5.2 Adopted soil screening criteria

Adopted Screening Criteria	Contaminants	Max. Concentration (mg/kg)
Health Investigation Levels:		
NEPM (1999) HIL – A values (Standard Residential)	Arsenic	100
'Standard' residential with garden/accessible soil (home-grown produce contributing <10% of vegetable and fruit intake; no poultry): this category includes children's day-care centres, kindergartens, preschools and primary schools	Cadmium	20
	Chromium	12%
	Chromium VI	100
	Cobalt	100
	Copper	1,000
	Lead	300
	Manganese	1,500
	Mercury	15
	Nickel	600
	Zinc	7,000
	Aldrin + Dieldrin	10
	Chlordane	50
	DDE + DDD + DDT	200
	Heptachlor	10
	Benzo(a)pyrene	1
	Total PAH	20
	Total Cyanide	250
	Total PCBs	10
	Phenol	8,500

Adopted Screening Criteria	Contaminants	Max. Concentration (mg/kg)
NEPM (1999) HIL – E values (Recreational/Open Space) *Parks, recreational open space and playing fields: includes secondary schools*	Arsenic	200
	Cadmium	40
	Chromium	24%
	Chromium VI	200
	Cobalt	200
	Copper	2,000
	Lead	600
	Manganese	3,000
	Mercury	30
	Nickel	600
	Zinc	14,000
	Aldrin + Dieldrin	20
	Chlordane	100
	DDE + DDD + DDT	400
	Heptachlor	20
	Benzo(a)pyrene	2
	Total PAH	40
	Total Cyanide	500
	Total PCBs	20
	Phenol	17,000
NEPM (1999) HILs – F (Commercial/Industrial) *Commercial/Industrial includes premises such as shops and offices as well as factories and industrial sites*	Arsenic	500
	Beryllium	100
	Boron	15,000
	Cadmium	100
	Chromium	60%
	Chromium VI	500
	Cobalt	500
	Copper	5,000
	Lead	1,500
	Manganese	7,500
	Mercury	75
	Nickel	3,000
	Zinc	35,000
	Aldrin + Dieldrin	50
	Chlordane	250
	DDE + DDD + DDT	1,000
	Heptachlor	50
	Benzo(a)pyrene	5
	Total PAH	100
	Total Cyanide	1,250
	Total PCBs	50
	Phenol	42,500
NSW EPA (1994) – Sensitive Land Use Guidelines *Investigation guidelines represent threshold concentrations adopted for the protection of human health.*	Benzene	1
	Toluene	130
	Ethylbenzene	50
	Total Xylenes	25
	C_6-C_9 TPH	65
	C_{10}-C_{36} TPH	1,000
Netherlands (2000) Intervention levels *Values take into account both human toxicological and ecotoxicological considerations*.	1,1,1-Trichloroethane	15
	1,1,2-Trichloroethane	10
	1,1-Dichloroethane	15
	1,1-Dichloroethene	0.3
	1,2-Dichloroethane	4
	Carbon Tetrachloride	1
	Dichloromethane	10
	Trichloroethene	60
	Tetrachloroethene	4
	Vinyl chloride	0.1

Adopted Screening Criteria	Contaminants	Max. Concentration (mg/kg)
Ecological Investigation Levels:		
NEPM (1999) Interim Urban EILs *Guidelines are based on considerations of phytotoxicity, ANZECC B levels and soil survey data from urban residential properties in four Australian capital cities.*	Arsenic Barium Cadmium Chromium Chromium VI Copper Lead Manganese Mercury Nickel Zinc	20 300 3 400 1 100 600 500 1 60 200
ANZECC/NHMRC (1992) Environmental Investigation Guidelines *Guidelines are based on threshold levels for:* ▪ *phytotoxicity; and* ▪ *uptake of contaminants which may result in impairment of plant growth or reproduction or unacceptable residue levels.*	Dieldrin Total PCBs	0.2 1

6. Results

6.1 Soil

Test pit log reports are included in Appendix C and provide details of soil types encountered at each of the sampling locations.

6.1.1 Northern portion

The natural soil profile encountered during the soil sampling program within the northern portion of the site indicated that natural soils consisted of sandy clays of medium plasticity with thin shallow semi-consolidated limestone layers intersected at a number of test-pit locations. Photograph 1, Appendix D shows the general soil profile encountered in the northern portion of the site.

Reworked natural soils were intersected to a depth of 0.7 m at test-pit location TP05 in the vicinity of the stormwater detention basin adjacent to Grand Junction Road (central northern portion of the site).

No odours or visual impacts (i.e. staining or obvious signs of contamination) were noted in the northern portion of the site and all headspace photo-ionisation detector (PID) readings were 0.0 ppm. It should be noted, however, that since the heavier chain hydrocarbons (e.g. diesel) are not particularly volatile, the absence of elevated PID readings does not necessarily indicate an absence of contamination.

6.1.2 Southern portion

The natural soil profile encountered during the soil sampling program within the southern portion of the site was consistent with what was encountered within the northern portion of the site and consisted of sandy clays with medium plasticity; however no shallow limestone layers were intersected in the southern portion of the site.

Variable fill material types were encountered across the southern portion of the site. The areas where burial of building demolition materials had occurred generally consisted of silty sand to sandy silt with variable proportions of building rubble including asphalt, concrete, bricks, wood, roof tiles, render, pvc, metal wire and pieces, vinyl tile fragments and other building products. Concrete pieces were identified up to 600 mm in size. Occasional building demolition wastes were identified in fill material from excavations outside of the inferred burial areas including DP04, DP14, DP21, DP27, DP28 and TP30 and may originate from the initial filling of the land prior to development of the Hillcrest Hospital or may have been spread across the site during the hospital building demolition works.

In addition, during site works a number of derelict underground services including large concrete stormwater pipes and asphalt road surfaces (refer Photograph 2, Appendix D showing multiple asphalt layers intersected at location TP26) were observed to still be present in the southern portion of the site.

Visual signs of potential contamination identified in the southern portion of the site included occasional slag, cinder and ash within shallow fill material from test-pit locations TP21 and 22, old (heavy tar) asphalt material within shallow fill material from test-pit locations TP23 and TP26 and building demolition material at numerous test-pit locations in areas of landfill

(burial of building demolition materials) and in the general vicinity of former hospital buildings on-site.

Headspace PID readings within soils in the southern portion of the site ranged from 0.0 to 0.2 ppm, therefore there is no evidence of volatile organic compound contamination within samples analysed. It should be noted, however, that since the heavier chain hydrocarbons (e.g. diesel) are not particularly volatile, the absence of elevated PID readings does not necessarily indicate an absence of hydrocarbon contamination.

6.2 Geotechnical testing results

Geotechnical testing included dynamic cone penetrometer (DCP) testing onsite and laboratory testing of collected samples. Of the eight DCP tests conducted on site, six met refusal on suspected building rubble. The two DCP tests that penetrated the underlying natural soils indicate moderate unsaturated soil strengths. The DCP results are provided in Appendix C.

Two samples were tested for both particle size distribution and California bearing ratio (CBR). The sample collected from DP09 was of the soil matrix only, oversize and deleterious material had been removed prior to testing. The lab certificates can be found in Appendix E. Table 6.1 below summarises the test results.

Table 6.1 Geotechnical testing results summary

Test Location	Sample Depth (m)	Soil Type	Soaked CBR	In Situ CBR*	Max Dry Density (t/m³)	Optimum Moisture Content (%)
TP27	0.3–0.5	CI – SC	4%	15%–25%	1.63	21.0%
DP09	0.3–0.6	FILL	2%	15%–25%	1.64	19.0%

*In situ CBR inferred from DCP correlation

6.3 Soil analytical results

The number of soil samples analysed, analytes tested for, minimum/maximum constituent concentrations and the number of samples that exceeded the adopted screening criteria for both the northern and southern portion of the site are detailed in Tables 6.2 and 6.3.

Tables of soil analytical results are included in Appendix B and copies of laboratory certificates and signed chain of custody documents are included in Appendix E.

Table 6.2 Summary of soil results – northern portion

Number of Primary Samples*	Number of Duplicates (intra-lab)	Number of Duplicates (inter-lab)	Analyte (mg/kg unless otherwise marked)	Min. Conc.	Max. Conc.	No. primary samples Exceeding Screening Criteria			
						NEPM 1999 EIL*	NEPM 1999 HIL*		
							A	E	F
21	1	1	Arsenic	nd	nd	-	-	-	-
2	-	-	Barium	80	80	-	na	na	na
2	-	-	Beryllium	nd	nd	na	-	-	-
21	1	1	Cadmium (µg/kg)	nd	nd	-	-	-	-
21	1	1	Chromium	16	30	-	-	-	-
2	-	-	Hexavalent chromium	nd	nd	-	-	-	-
2	-	-	Cobalt	9	10	na	-	-	-
21	1	1	Copper	10	136	1	-	-	-
21	1	1	Lead	10	64	-	-	-	-
2	-	-	Manganese	90	290	-	-	-	-
21	1	1	Mercury (µg/kg)	nd	300	-	-	-	-
21	1	1	Nickel	8	14	-	-	-	-
21	1	1	Zinc	16	248	1	-	-	-
21	1	1	OCPs	nd	nd	-	-	-	-
8	-	1	C_6-C_9 TPH	nd	nd	-	-	-	-
8	-	1	C_{10}-C_{36} TPH	nd	nd	-	-	-	-
8	-	1	Benzo(a)pyrene	nd	nd	na	-	-	-
8	-	1	Total PAHs	nd	nd	na	-	-	-
2	-	-	Phenols/SVOCs	nd	nd	na	-	-	-
2	-	-	PCBs	nd	nd	na	-	-	-
2	-	-	Cyanide	nd	nd	na	-	-	-
2	-	-	OPPs	nd	nd	na	na	na	na
2	-	-	Phenoxy Acid Herbicides	nd	nd	na	na	na	na
2	-	-	BTEX	nd	nd	-	-	-	-
2	-	-	VOCs total	nd	0.8	na	-	-	-

Note: * NEPM investigation levels or additional adopted environmental/health investigation levels
nd = non detect
na = not applicable

Table 6.3 Summary of soil results – southern portion

Number of Primary Samples*	Number of Duplicates (intra-lab)	Number of Duplicates (inter-lab)	Analyte (mg/kg unless otherwise marked)	Min. Conc.	Max. Conc.	No. primary samples Exceeding Screening Criteria			
						NEPM 1999 EIL*	NEPM 1999 HIL*		
							A	E	F
12	1	-	Arsenic	nd	42	1	-	-	-
2	-	-	Barium	70	160	-	na	na	na
2	-	-	Beryllium	nd	nd	na	-	-	-
12	1	-	Cadmium (µg/kg)	nd	nd	-	-	-	-
12	1	-	Chromium	10	22	-	-	-	-
2	-	-	Hexavalent chromium	nd	nd	-	-	-	-
2	-	-	Cobalt	2	6	na	-	-	-
12	1	-	Copper	7	22	-	-	-	-
12	1	-	Lead	8	66	-	-	-	-
2	-	-	Manganese	107	150	-	-	-	-
12	1	-	Mercury (µg/kg)	nd	300	-	-	-	-
12	1	-	Nickel	8	14	-	-	-	-
12	1	-	Zinc	20	94	-	-	-	-
13	1	-	OCPs	nd	0.17 (Dieldrin)	-	-	-	-
7	-	-	C_6-C_9 TPH	nd	nd	-	-	-	-
7	-	-	C_{10}-C_{36} TPH	nd	nd	-	-	-	-
7	-	-	Benzo(a)pyrene	nd	nd	na	-	-	-
7	-	-	Total PAHs	nd	1	na	-	-	-
5	-	-	Phenols/SVOCs	nd	nd	na	-	-	-
4	-	-	PCBs	nd	nd	na	-	-	-
2	-	-	Cyanide	nd	nd	na	-	-	-
2	-	-	BTEX	nd	nd	-	-	-	-
2	-	-	VOCs total	nd	nd	na	-	-	-
2	-	-	Asbestos content (presence)	nd	nd	na	na	na	na

Note: * NEPM investigation levels or additional adopted environmental/health investigation levels
nd = non detect
na = not applicable

6.4 Potential asbestos containing materials

Potential asbestos containing materials were identified in the southern portion of the site both disposed of upon the surface of site and within the building demolition material. The results of the laboratory analysis are presented within the Sample Analysis Report in Appendix F.

A stockpile of fibre cement piping was identified disposed of upon the land surface in the southern portion of the site in the vicinity of the former Ward 3 building. The fibre cement piping was confirmed to contain chrysotile asbestos by stereo microscopy (Sample 001, Appendix F).

A green vinyl floor tile fragment was identified within buried building demolition material from TP25 (0.0-1.0 m) in the southern portion of the site. Laboratory analysis by stereo microscopy indicated that this vinyl tile fragment did not to contain asbestos (Sample 002, Appendix F).

A white fibrous plaster clump was identified within buried building demolition material from TP28 (0.15-0.80 m) in the southern portion of the site. Laboratory analysis by stereo microscopy indicated this fibrous plaster clump did not contain asbestos (Sample 003, Appendix F).

A blue vinyl floor tile fragment was identified within buried building demolition material from DP02 (0.1-0.4 m) in the southern portion of the site. The vinyl tile fragment was confirmed to contain chrysotile asbestos by stereo microscopy (Sample 004, Appendix F).

6.5 Data validation

Analytical results and RPD calculations for the intra- and inter-laboratory field duplicates are included field duplicates table in Appendix B. The precision of the results for each analyte between the primary sample and the field duplicate was determined by calculating the Relative Percentage Difference (RPD), as follows:

$$RPD = \frac{(Concentration\,1 - Concentration\,2)\ x\,100}{(Concentration\,1 + Concentration\,2)\ /\ 2}$$

Based on Australian Standard AS 4482.1-2005, a field duplicate RPD within the range of 30% to 50% is considered acceptable. Generally higher RPD values occur for organic compounds than for metals and where low concentrations of an analyte are recorded.

The results of internal laboratory quality control procedures are provided within the laboratory analysis reports (Appendix E). The acceptance criterion for internal laboratory replicates is generally set at an RPD of 20% to 50%. Laboratory recoveries should be in the range 75% to 125%.

Tables 6.4 and 6.5 indicate conformance to field QA/QC and laboratory QA/QC procedures, respectively.

Table 6.4 Field QA/QC procedures

QA/QC Requirement	Completed	Comments
Field instruments calibrated	Yes	The PID was calibrated at the beginning of the soil sampling program.
Chain of custody documentation completed	Yes	All samples were transported under strict PB chain of custody procedures and signed chain of custody documents are included in Appendix E.
Required number (1:10) of blind field duplicates collected	Yes	The required number of duplicate samples were collected and analysed for the main contaminant of concern.
Soil QA/QC samples reported RPDs within limits set by AS4482.1-2005	Mostly	RPD values were generally within the acceptable range with the exception of the RPD for arsenic concentrations reported for sample TP26_0.27-0.37 and the intra-lab duplicate QC04 (RPD reported as 123%). The RPD value outside of the acceptable range is considered to be due to the non-homogeneity of the fill material analysed.
Required numbers of trip and rinsate blank samples collected	Yes	A rinsate blank was collected from sampling gloves at the completion of the sampling program and a trip blank was included during transport of the primary samples.
Acceptable trip and rinsate blank results	Mostly	All trip blank results were reported below the laboratory detection limit. Minor concentrations of cadmium, copper and zinc were detected in the rinsate sample collected from the disposable sampling gloves (refer to field blanks table within Appendix B). The rinsate blank results are not deemed to significantly alter the interpretation of the soil analytical results.
Samples delivered to laboratory within sample holding times and with correct preservative	Yes	Samples were delivered to the laboratories within the sample holding times and in laboratory-supplied containers prepared with the appropriate preservative (where required).

Table 6.5 Laboratory QA/QC procedures

QA/QC Requirement	Completed	Comments
Samples extracted and analysed within relevant holding times	Yes	Refer to ALS Interpretive Quality Control reports in Appendix E.
All analyses NATA accredited	Mostly	Both ALS and MGT are NATA accredited for all the soil and blanks analyses performed. PB Adelaide in-house asbestos laboratory is not NATA accredited.
Acceptable laboratory Limits of Reporting (LORs) adopted	Yes	The LORs for all laboratory analysis were acceptable and were below the adopted assessment criteria.

QA/QC Requirement	Completed	Comments
Acceptable laboratory QC results	Yes	The results of internal laboratory quality control procedures are provided within the laboratory analysis reports (Appendix E). Laboratory RPD, recovery, and control blank results were within acceptable ranges.

In summary, it was considered that the QA/QC procedures and results were generally adequate and that the analytical results obtained were of acceptable quality for the purposes of this report.

7. Discussion

7.1 Northern portion

7.1.1 Soil analytical results

The analytical results for soil samples from the nineteen test-pits completed in the northern portion of the site were generally reported below the adopted EIL criteria. A single isolated sample reported contaminant concentrations in exceedance of the NEPM EIL. The surface sample from TP18 (0.0–0.1 m) reported a copper concentration (136 mg/kg) and zinc concentration (248 mg/kg) that slightly exceeded the NEPM EIL. It is possible that the slightly elevated copper and zinc concentrations may be attributable to overflow of stormwater runoff from the drainage channel located immediately east of TP18.

All analytical results for soil samples from the northern portion of the site reported contaminant concentrations below the NEPM HIL A (residential land use) and other adopted health based investigation levels.

7.2 Southern portion

7.2.1 Soil analytical results

The analytical results for soil samples from the eleven test-pits completed in the southern portion of the site were generally reported below the adopted EIL criteria. A single isolated sample of fill material from TP26 (0.27–0.37 m) reported an arsenic concentration (42 mg/kg) in exceedance of the NEPM EIL (20 mg/kg).

Four test-pits from the southern portion of the site reported the organochlorine pesticide dieldrin in exceedance of the laboratory detection limit (maximum reported concentration of 0.17 mg/kg) but all concentrations were below the ANZECC (1992) EIL (0.2 mg/kg).

All analytical results for soil samples from the southern portion of the site reported contaminant concentrations below the NEPM HIL A (residential land use) and other adopted health based investigation levels.

Two samples of fill material from within the buried building demolition material (TP28 and TP29) were analysed for the presence of asbestos fibres. No asbestos was detected in either sample of fill material.

7.2.2 Buried building demolition material

Three areas of potential building demolition material burial within the southern portion of the site were identified within the Rust PPK (1994) report. The three locations were reportedly situated in the vicinity of the former Ward 3 building (DP01 to DP07), the vicinity of the former Ward 9 building (DP08 to DP28) and a location along the western site boundary slightly north of the former Ward 3 building (DP29 and DP30).

Building demolition material was identified in two of the three locations and generally consisted of brick, concrete, wood, ceramic, render, asphalt, plastic, metal and other building products including asbestos containing vinyl tile fragments.

The inferred lateral extent of buried building demolition material in the vicinity of the former Ward 3 and Ward 9 buildings and the location of all thirty delineation pits are presented in Figure 2, Appendix A.

It should be noted that a number of excavation locations (DP04, DP09, DP14, DP21, DP27, DP28 and TP30) in the vicinity of former building structures and outside the area of inferred burial of building demolition wastes still contained fill material with occasional building demolition waste.

7.2.2.1 Vicinity of former Ward 9 building

A total of twenty-one delineation pits (DP08 to DP28) were excavated to determine the lateral extent and depth of buried building material in the vicinity of the former Ward 9 building. The depth of fill was observed ranged from 0.2 to 1.1 m below ground level with a mean depth of 0.6 m over the inferred landfill area. The capping layer (or clean overburden) ranged from 0.1 to 0.25 m depth. The area of the inferred landfill area was 9,232 m^2, equating to a volume estimate for the buried building demolition material of 5,539 m^3. Photographs 3 and 4, Appendix D show buried building wastes present in DP18.

7.2.2.2 Vicinity of the former Ward 3 building

A total of seven delineation pits (DP01 to DP07) were excavated to determine the lateral extent and depth of buried building demolition material in the vicinity of the former Ward 3 building. The depth of fill was observed ranged from 0.3 to 1.0 m below ground level with a mean depth of 0.66 m over the inferred landfill area. The capping layer (or clean overburden) ranged from 0.1 to 0.15 m depth. The area of the inferred landfill area was 949 m^2, equating to a volume estimate for the buried building demolition material of 629 m^3. Photograph 5, Appendix D shows buried building waste in TP28.

7.2.2.3 North of the former Ward 3 building

A total of two delineation pits (DP29 and DP30) were excavated to depths of up to 1.1 m in the area of suspected burial of building materials north of the former Ward 3 building. Fill materials including road-base substrate were intersected in the pits but no evidence of burial of waste material was observed.

The Rust PPK (1994) report indicated that a burial location of approximately 5.1 by 3.1 m and of over 1.7 m depth existed north of the former Ward 3 building but this burial pit was not intersected during the current investigation. It is possible that the pit location resides west of allotment 361 and hence is outside of the current site.

7.2.3 Geotechnical considerations

The geotechnical part of the overall investigation focussed on the southern portion of the site including the former Ward 9 and Ward 3 building locations. Generally, in the vicinity of these building locations, a layer of building rubble mixed with soil was encountered. Across the rest of the southern portion, a layer of clean fill was found overlying the natural materials. Overlying this fill, a capping layer is either very thin or nonexistent.

To prepare the site for future development, some earthworks will be required – particularly if the future development is to include any load bearing structures. The layer of uncontrolled fill will likely need to be removed and replaced as engineered fill. Any fill containing

oversize (>50 mm) or other deleterious material would need to be sorted prior to using as engineered fill. The waste material would then need to be disposed of off-site.

Removal of waste material and recompaction would result in an overall loss of volume. Returning the site to the existing ground level will require the importation of clean fill.

A more detailed geotechnical assessment of the site will require further work. To facilitate future design and recommendations, a more comprehensive geotechnical investigation will be required including further laboratory testing.

7.2.4 Additional considerations

7.2.4.1 Underground boiler pipes

Two trenches were excavated in the southern portion of the site in the area where underground boiler pipes were believed to be located as indicated within the Rust PPK (1994) report. The locations of trench 1 and trench 2 are presented in Figure 2, Appendix A and photographs of each trench are presented as Photographs 6 and 7, Appendix D.

A number of underground services were intersected within both trenches including with what was possibly the boiler pipes encased in a concrete conduit within the trench 2. No lagging materials (or other potentially asbestos containing materials) were identified on pipes within the concrete conduit or the other services intersected.

7.2.4.2 Derelict infrastructure

During site works it was observed that various derelict underground services including large diameter stormwater pipes as well as surface features such as light poles, bitumen sealed road surfaces and concrete foundations (adjacent to former Ward 3 building) remained present on site. The presence of such infrastructure/services should be considered prior to any future development at the site.

7.2.4.3 Surface waste disposal

Stockpiles of various building materials and rubbish, possibly originating from illegal dumping on-site, were identified at a number of locations and included a stockpile of asbestos cement piping in the vicinity of the former Ward 3 building (refer to Photograph 8 and 9, Appendix D).

8. Conclusions

8.1 Conclusions

8.1.1 Northern portion

Based on the soil analytical results obtained during the limited ESA, it is concluded that:

- The potential contaminant concentrations reported do not preclude the redevelopment of the northern portion of the site for residential, recreational/open space or commercial/industrial land use.
- Consideration should be given to potential environmental impacts on any proposed development from the isolated EIL exceedences for copper and zinc.

8.1.2 Southern portion

Based on the soil analytical results obtained during the limited ESA, it is concluded that:

- The potential contaminants concentrations reported do not preclude the redevelopment of the southern portion of the site for residential, recreational/open space or commercial/industrial land use.
- Consideration should be given to potential environmental impacts on any proposed development from the isolated EIL exceedance for arsenic.
- Asbestos containing materials identified within the buried building demolition material and present on the site surface will require management during any site redevelopment.

Based on the geotechnical results obtained during the limited ESA, it is concluded that:

- Preparation of the site for future development will require some degree of earthworks. Depending on the nature of the proposed development, excavation of the uncontrolled fill overlying the southern portion will likely be needed. Any fill placed on site would need to be placed as engineered fill under compaction control.
- Particularly within the vicinity of the Ward 3 and Ward 9 buildings, in areas bounded in Figure 2 by the inferred extent of landfill boundary, there was a significant amount of building rubble. Any oversize material (e.g. bricks, concrete rubble) would need to be crushed or removed prior to using as engineered fill. Material used for engineered fill should be approved by a competent geotechnical engineer prior to placement.
- Further geotechnical investigation, including the potential for soil reactivity, is recommended to assess the site for geotechnical design.

9. References

ANZECC/NHMRC (1992) *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites*, Australia.

Connell Wagner (February 2006) *Proposed Oakden Mental Health Facility Site History Report,* Report No J188 1E, Revision 01.

GHD (December 2003) *The Strathmont Centre, Condition Audit, Phase 1 Environmental Site Assessment (Site History) Report,* Report No 33/11887/10587.

Netherlands Ministry of Housing, Spatial Planning and the Environment (2000) *Circular on Target Values and Intervention Values for Soil Remediation*.

NEPM (1999) *National Environment Protection (Assessment of Site Contamination) Measure*. National Environment Protection Council, Australia.

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

RUST PPK (December 1994) *Report on Potential Environmental Issues and Preliminary Testing at the Hillcrest Hospital, Fosters Road, Gilles Plains, SA.* Report No. 94/730 27F358A.

South Australian Environment Protection Authority (2008) *Site Contamination – How to Determine Actual or Potential Harm to Water That is Not Trivial Resulting from Site Contamination*.

Standards Australia (1993) AS1726 *Geotechnical Site Investigations*.

Standards Australia (2005) *Guide to the Sampling and Investigation of Potentially Contaminated Soil Part 1: Non-Volatile and Semi-Volatile Compounds*. AS4482.1-2005 Homebush NSW.

10. Statement of limitations

Scope of services

This environmental site assessment report ("the report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and PB ("scope of services"). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

Reliance on data

In preparing the report, PB has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise stated in the report, PB has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. PB will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to PB.

Environmental conclusions

In accordance with the scope of services, PB has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

On all sites, varying degrees of non-uniformity of the vertical and horizontal soil or groundwater conditions are encountered. Hence no monitoring, common testing or sampling technique can eliminate the possibility that monitoring or testing results/samples are not totally representative of soil and/or groundwater conditions encountered. The conclusions are based upon the data and the environmental field monitoring and/or testing and are therefore merely indicative of the environmental condition of the site at the time of preparing the report, including the presence or otherwise of contaminants or emissions.

Also, it should be recognised that site conditions, including the extent and concentration of contaminants, can change with time.

Within the limitations imposed by the scope of services, the monitoring, testing, sampling and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

Report for benefit of client

The report has been prepared for the benefit of the Client and no other party. PB assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of PB or for any loss or damage suffered by any other party relying upon the

matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

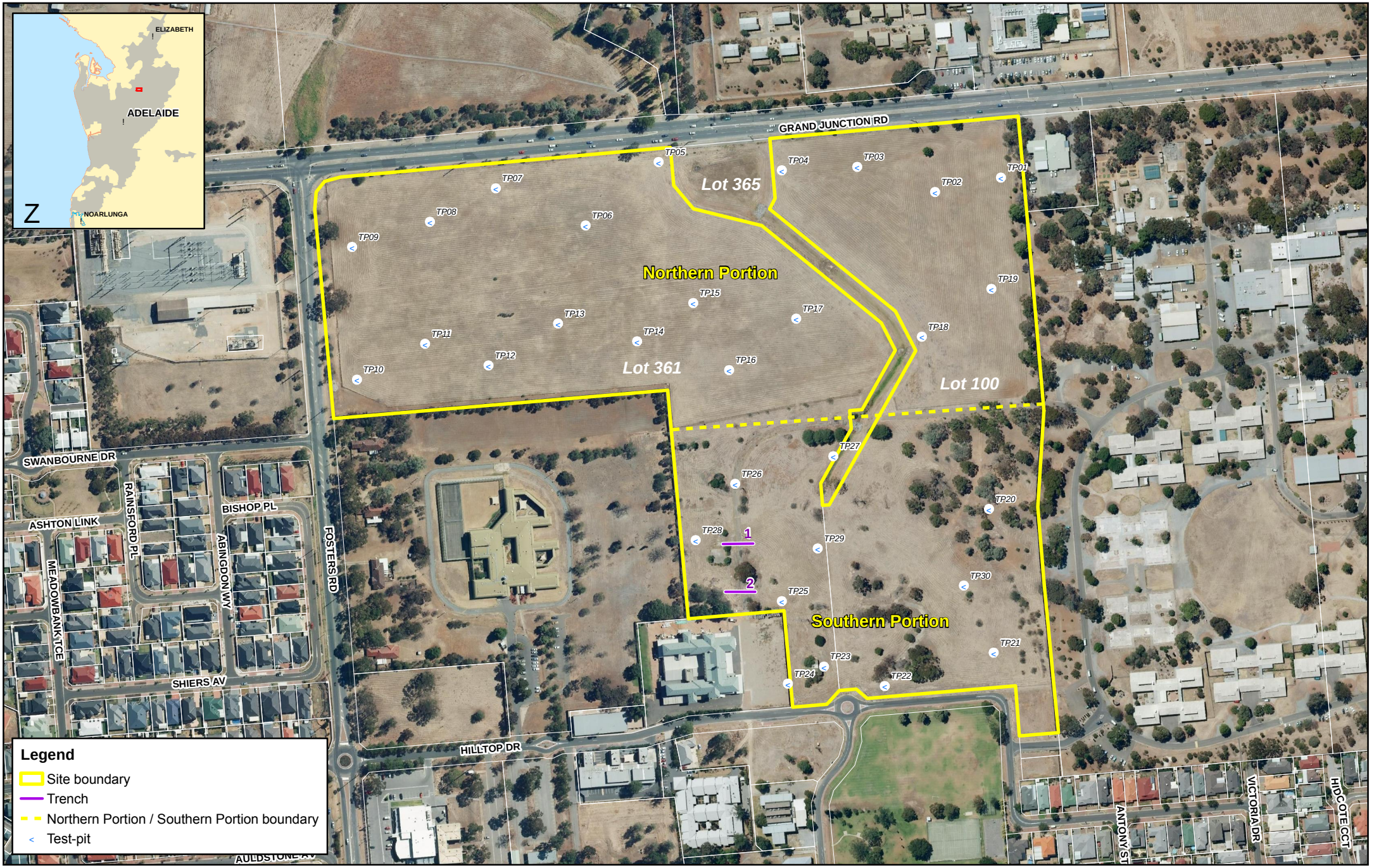
Other limitations

PB will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

The scope of services did not include any assessment of the title to or ownership of the properties, buildings and structures referred to in the report nor the application or interpretation of laws in the jurisdiction in which those properties, buildings and structures are located.

Appendix A

Figures



1:4,000 at A4 Z

0 50 100
Metres

Coord: GDA 94 MGA 54

Source: DCDB, Google Earth

Drawing No:	2160919A_GIS_F001		
Revision:	A	**Date:**	29/04/2010
Drawn By:	SH/CT	**Checked by:**	ECB/SH
Client Ref:	Land Management Corp		

Portion of former Hillcrest Hospital Site - Environmental Site Assessment

Test pit investigation location plan

Figure 1

GIS File: \\AUADLF1\proj\L\Land_Management_Corp\2160919A_SA_CLM_HILLCREST_HOSPITAL_ESA\10_GIS\Projects\Drawings_Figures_Sketches\2160919A_GIS_F001_A.mxd

1:1,600 at A4 Z

0 20 40
Metres

Coord: GDA 94 MGA 54

Source: DCDB, Google Earth

Drawing No:	2160919A_GIS_F002		
Revision:	A	**Date:**	29/04/2010
Drawn By:	SH/CT	**Checked by:**	ECB/SH
Client Ref:	Land Management Corp		

Portion of former Hillcrest Hospital Site - Environmental Site Assessment

Inferred extent of landfill

Figure 2

GIS File: \\AUADLF1\proj\L\Land_Management_Corp\2160919A_SA_CLM_HILLCREST_HOSPITAL_ESA\10_GIS\Projects\Drawings_Figures_Sketches\2160919A_GIS_F002_A.mxd

Appendix B

Analytical results tables

Northern Portion (Paddock)

Field_ID	TP01_0.0-0.1	TP02_0.0-0.1	TP03_0.0-0.1	TP04_0.0-0.1	TP05_0.0-0.1	TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
Sampled_Date	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010

Chem_Group	ChemName	output unit	EQL	NEPM 1999 EIL	ANZECC/NHRMC 1992 EIL	NEPM 1999 HIL A	NSW EPA 1994 Sensitive Land Use	Dutch Intervention Level 2000	NEPM 1999 HIL E	NEPM 1999 HIL F										
	Moisture	%	1								11.3	9.8	13.6	12.5	11.1	11	10.2	7.5	12	14.7
Inorganics	Cyanide Total	mg/kg	1			500			1000	2500							<1			
	Asbestos	Presence	y/n																	
Metals	Arsenic	mg/kg	5	20		100			200	500	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Barium	mg/kg	10	300													80			
	Berryllium	mg/kg	1			20			40	100							<1			
	Cadmium	µg/kg	1000	3000		20000			40000	100000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
	Chromium #	mg/kg	2	400		12%			24%	60%	24	23	23	30	22	26	25	21	24	26
	Chromium (hexavalent)	mg/kg	0.5	1		100			200	500							<0.5			
	Cobalt	mg/kg	2			100			200	500							9			
	Copper	mg/kg	5	100		1000			2000	5000	14	14	15	15	20	15	14	10	14	14
	Iron	mg/kg	50														14000			
	Lead	mg/kg	5	600		300			600	1500	30	24	49	15	28	25	37	10	34	32
	Manganese	mg/kg	5	500		1500			3000	7500							290			
	Mercury	µg/kg	100	1000		15000			30000	75000	300	<100	<100	<100	<100	<100	<100	<100	<100	<100
	Nickel	mg/kg	2	60		600			600	3000	12	13	11	14	11	13	13	10	12	13
	Silver	mg/kg	2														<2			
	Zinc	mg/kg	5	200		7000			14000	35000	30	25	37	23	46	29	30	16	30	28
OCP	4,4-DDE	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05			200			400	1000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	a-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dieldrin	mg/kg	0.05		0.2						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	b-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane (cis)	mg/kg	0.05			50			100	250	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane (trans)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	d-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan I	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan II	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin ketone	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Organophosphorus Pesticides	Chlorpyrifos	mg/kg	0.05								<0.05									
	Chlorpyrifos-methyl	mg/kg	0.05								<0.05									
	Diazinon	mg/kg	0.05								<0.05									
	Dimethoate	mg/kg	0.05								<0.05									
	Ethion	mg/kg	0.05								<0.05									
	Bromophos-ethyl	mg/kg	0.05								<0.05									
Pesticides	Azinophos methyl	mg/kg	0.05								<0.05									
	Carbophenothion	mg/kg	0.05								<0.05									
	Chlorfenvinphos	mg/kg	0.05								<0.05									
	Demeton-S-methyl	mg/kg	0.05								<0.05									
	Dichlorvos	mg/kg	0.05								<0.05									
	Fenamiphos	mg/kg	0.05								<0.05									
	Fenthion	mg/kg	0.05								<0.05									
	Malathion	mg/kg	0.05								<0.05									
	Methyl parathion	mg/kg	0.2								<0.2									
	Monocrotophos	mg/kg	0.2								<0.2									
	Parathion	mg/kg	0.2								<0.2									
	Pirimphos-ethyl	mg/kg	0.05								<0.05									
	Prothiofos	mg/kg	0.05								<0.05									
Phenoxy Acid Herbicides	2,4,5-T	mg/kg	0.02								<0.02									
	2,4,5-TP (Silvex)	mg/kg	0.02								<0.02									
	2,4-D	mg/kg	0.02								<0.02									
	2,4-DB	mg/kg	0.02								<0.02									
	4-Chlorophenoxy acetic acid	mg/kg	0.02								<0.02									
	Clopyralid	mg/kg	0.02								<0.02									
	Dicamba	mg/kg	0.02								<0.02									
	Fluroxypyr	mg/kg	0.02								<0.02									
	MCPA	mg/kg	0.02								<0.02									
	MCPB	mg/kg	0.02								<0.02									
	Mecoprop	mg/kg	0.02								<0.02									
	Picloram	mg/kg	0.02								<0.02									
	Triclopyr	mg/kg	0.02								<0.02									
PAH	Acenaphthene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Acenaphthylene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Anthracene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5

Field_ID	TP01_0.0-0.1	TP02_0.0-0.1	TP03_0.0-0.1	TP04_0.0-0.1	TP05_0.0-0.1	TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
Sampled_Date	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010

Chem_Group	ChemName	output unit	EQL	NEPM 1999 EIL	ANZECC/NHRMC 1992 EIL	NEPM 1999 HIL A	NSW EPA 1994 Sensitive Land Use	Dutch Intervention Level 2000	NEPM 1999 HIL E	NEPM 1999 HIL F										
	Benz(a)anthracene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Benzo(a) pyrene	mg/kg	0.5			1			2	5	<0.5				<0.5		<0.5			<0.5
	Benzo(b)fluoranthene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Benzo(k)fluoranthene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Chrysene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Fluoranthene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Fluorene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Naphthalene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Phenanthrene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Pyrene	mg/kg	0.5								<0.5				<0.5		<0.5			<0.5
	Total PAH	mg/kg	0.5			20			40	100	<0.5				<0.5		<0.5			<0.5
PCB	PCBs (Sum of total)	mg/kg	0.1		1/01/1900	10			20	50							<0.1			
Phenols	2,4,5-trichlorophenol	mg/kg	0.5														<0.5			
	2,4-dichlorophenol	mg/kg	0.5														<0.5			
	2,4-dimethylphenol	mg/kg	0.5														<0.5			
	2,4-DP	mg/kg	0.02								<0.02									
	2-chlorophenol	mg/kg	0.5														<0.5			
	2-methylphenol	mg/kg	0.5														<0.5			
	3-&4-methylphenol	mg/kg	1														<1			
	Phenol	mg/kg	0.5			8500			17000	42500							<0.5			
	2,4,6-trichlorophenol	mg/kg	0.5														<0.5			
	2,6-dichlorophenol	mg/kg	0.5														<0.5			
	2-nitrophenol	mg/kg	0.5														<0.5			
	4-chloro-3-methylphenol	mg/kg	0.5														<0.5			
	Pentachlorophenol	mg/kg	2														<2			
TPH	TPH C 6 - C 9 Fraction	mg/kg	10				65				<10				<10		<10			<10
	TPH C10 - C14 Fraction	mg/kg	50								<50				<50		<50			<50
	TPH C15 - C28 Fraction	mg/kg	100								<100				<100		<100			<100
	TPH C29-C36 Fraction	mg/kg	100								<100				<100		<100			<100
	TPH+C10 - C36 (Sum of total)	mg/kg	50				1000				<50				<50		<50			<50
BTEX	Benzene	mg/kg	0.2				1										<0.2			
	Ethylbenzene	mg/kg	0.5				50										<0.5			
	Toluene	mg/kg	0.5				130										<0.5			
	Xylene (m & p)	mg/kg	0.5				25										<0.5			
	Xylene (o)	mg/kg	0.5														<0.5			
VOC	1,1,1,2-tetrachloroethane	mg/kg	0.5														<0.5			
	1,1,1-trichloroethane	mg/kg	0.5					15									<0.5			
	1,1,2,2-tetrachloroethane	mg/kg	0.5														<0.5			
	1,1,2-trichloroethane	mg/kg	0.5					10									<0.5			
	1,1-dichloroethane	mg/kg	0.5					15									<0.5			
	1,1-dichloroethene	mg/kg	0.5					0.3									<0.5			
	1,1-dichloropropene	mg/kg	0.5														<0.5			
	1,2,3-trichloropropane	mg/kg	0.5														<0.5			
	1,2-dibromo-3-chloropropane	mg/kg	0.5														<0.5			
	1,2-dichloroethane	mg/kg	0.5					4									<0.5			
	1,3-dichloropropane	mg/kg	0.5														<0.5			
	Bromomethane	mg/kg	5														<5			
	Carbon tetrachloride	mg/kg	0.5					1									<0.5			
	Chloroethane	mg/kg	5														<5			
	Chloromethane	mg/kg	5														<5			
	cis-1,2-dichloroethene	mg/kg	0.5														<0.5			
	cis-1,4-Dichloro-2-butene	mg/kg	0.5														<0.5			
	Dibromomethane	mg/kg	0.5														<0.5			
	Dichlorodifluoromethane	mg/kg	5														<5			
	Dichloromethane	mg/kg	0.5					10									<0.7			
	Hexachlorobutadiene	mg/kg	0.5														<0.5			
	Iodomethane	mg/kg	0.5														<0.5			
	Pentachloroethane	mg/kg	0.5														<0.5			
	TCE	mg/kg	0.5					60									<0.5			
	Tetrachloroethene	mg/kg	0.5					4									<0.5			
	trans-1,2-dichloroethene	mg/kg	0.5														<0.5			
	trans-1,4-Dichloro-2-butene	mg/kg	0.5														<0.5			
	Trichlorofluoromethane	mg/kg	5														<5			
	Vinyl chloride	mg/kg	5					0.1									<5			

Notes: Fill colour denotes concentration exceeds investigation level
*Based upon the value of free cyanide
Total as Chromium (III)

Field_ID	TP10_0.0-0.1	TP11_0.0-0.1	TP12_0.0-0.1	TP13_0.0-0.1	TP14_0.0-0.1	TP15_0.0-0.1	TP16_0.0-0.1	TP17_0.0-0.1	TP18_0.0-0.1	TP18_0.1-0.2
Sampled_Date	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010

Chem_Group	ChemName	output unit	EQL	NEPM 1999 EIL	ANZECC/NHRMC 1992 EIL	NEPM 1999 HIL A	NSW EPA 1994 Sensitive Land Use	Dutch Intervention Level 2000	NEPM 1999 HIL E	NEPM 1999 HIL F										
	Moisture	%	1								12	11.8	14.3	11.2	12.8	10.5	9.9	9	20	10.1
Inorganics	Cyanide Total	mg/kg	1			500			1000	2500									<1	
	Asbestos	Presence	y/n																	
Metals	Arsenic	mg/kg	5	20		100			200	500	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Barium	mg/kg	10	300															80	
	Berryllium	mg/kg	1			20			40	100									<1	
	Cadmium	µg/kg	1000	3000		20000			40000	100000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
	Chromium #	mg/kg	2	400		12%			24%	60%	20	19	21	21	23	22	16	21	18	22
	Chromium (hexavalent)	mg/kg	0.5	1		100			200	500									<0.5	
	Cobalt	mg/kg	2			100			200	500									10	
	Copper	mg/kg	5	100		1000			2000	5000	12	11	11	12	13	12	11	11	136	32
	Iron	mg/kg	50																7840	
	Lead	mg/kg	5	600		300			600	1500	33	22	23	24	25	21	13	20	64	16
	Manganese	mg/kg	5	500		1500			3000	7500									90	
	Mercury	µg/kg	100	1000		15000			30000	75000	<100	<100	<100	<100	<100	<100	<100	<100	200	<100
	Nickel	mg/kg	2	60		600			600	3000	10	10	10	10	12	10	9	10	8	9
	Silver	mg/kg	2																<2	
	Zinc	mg/kg	5	200		7000			14000	35000	26	22	26	26	40	35	18	23	248	107
OCP	4,4-DDE	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	DDD	mg/kg	0.05			200			400	1000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	DDT	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1	<0.2
	a-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Aldrin	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Dieldrin	mg/kg	0.05		0.2						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	b-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Chlordane (cis)	mg/kg	0.05			50			100	250	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Chlordane (trans)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	d-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endosulfan I	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endosulfan II	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endosulfan sulphate	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Endrin ketone	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Heptachlor	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Hexachlorobenzene	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05
	Methoxychlor	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1	<0.2
Organophosphorus Pesticides	Chlorpyrifos	mg/kg	0.05									<0.05								
	Chlorpyrifos-methyl	mg/kg	0.05									<0.05								
	Diazinon	mg/kg	0.05									<0.05								
	Dimethoate	mg/kg	0.05									<0.05								
	Ethion	mg/kg	0.05									<0.05								
	Bromophos-ethyl	mg/kg	0.05									<0.05								
Pesticides	Azinophos methyl	mg/kg	0.05									<0.05								
	Carbophenothion	mg/kg	0.05									<0.05								
	Chlorfenvinphos	mg/kg	0.05									<0.05								
	Demeton-S-methyl	mg/kg	0.05									<0.05								
	Dichlorvos	mg/kg	0.05									<0.05								
	Fenamiphos	mg/kg	0.05									<0.05								
	Fenthion	mg/kg	0.05									<0.05								
	Malathion	mg/kg	0.05									<0.05								
	Methyl parathion	mg/kg	0.2									<0.2								
	Monocrotophos	mg/kg	0.2									<0.2								
	Parathion	mg/kg	0.2									<0.2								
	Pirimphos-ethyl	mg/kg	0.05									<0.05								
	Prothiofos	mg/kg	0.05									<0.05								
Phenoxy Acid Herbicides	2,4,5-T	mg/kg	0.02									<0.02								
	2,4,5-TP (Silvex)	mg/kg	0.02									<0.02								
	2,4-D	mg/kg	0.02									<0.02								
	2,4-DB	mg/kg	0.02									<0.02								
	4-Chlorophenoxy acetic acid	mg/kg	0.02									<0.02								
	Clopyralid	mg/kg	0.02									<0.02								
	Dicamba	mg/kg	0.02									<0.02								
	Fluroxypyr	mg/kg	0.02									<0.02								
	MCPA	mg/kg	0.02									<0.02								
	MCPB	mg/kg	0.02									<0.02								
	Mecoprop	mg/kg	0.02									<0.02								
	Picloram	mg/kg	0.02									<0.02								
	Triclopyr	mg/kg	0.02									<0.02								
PAH	Acenaphthene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Acenaphthylene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Anthracene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5

Field_ID	TP10_0.0-0.1	TP11_0.0-0.1	TP12_0.0-0.1	TP13_0.0-0.1	TP14_0.0-0.1	TP15_0.0-0.1	TP16_0.0-0.1	TP17_0.0-0.1	TP18_0.0-0.1	TP18_0.1-0.2
Sampled_Date	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010	7/04/2010

Chem_Group	ChemName	output unit	EQL	NEPM 1999 EIL	ANZECC/NHRMC 1992 EIL	NEPM 1999 HIL A	NSW EPA 1994 Sensitive Land Use	Dutch Intervention Level 2000	NEPM 1999 HIL E	NEPM 1999 HIL F										
	Benz(a)anthracene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Benzo(a) pyrene	mg/kg	0.5			1			2	5			<0.5		<0.5				<0.5	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Chrysene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Fluoranthene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Fluorene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Naphthalene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Phenanthrene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Pyrene	mg/kg	0.5										<0.5		<0.5				<0.5	<0.5
	Total PAH	mg/kg	0.5			20			40	100			<0.5		<0.5				<05	<0.5
PCB	PCBs (Sum of total)	mg/kg	0.1		1/01/1900	10			20	50									<0.5	
Phenols	2,4,5-trichlorophenol	mg/kg	0.5																<0.5	
	2,4-dichlorophenol	mg/kg	0.5																<0.5	
	2,4-dimethylphenol	mg/kg	0.5																<0.5	
	2,4-DP	mg/kg	0.02									<0.02								
	2-chlorophenol	mg/kg	0.5																<0.5	
	2-methylphenol	mg/kg	0.5																<0.5	
	3-&4-methylphenol	mg/kg	1																<1	
	Phenol	mg/kg	0.5			8500			17000	42500									<0.5	
	2,4,6-trichlorophenol	mg/kg	0.5																<0.5	
	2,6-dichlorophenol	mg/kg	0.5																<0.5	
	2-nitrophenol	mg/kg	0.5																<0.5	
	4-chloro-3-methylphenol	mg/kg	0.5																<0.5	
	Pentachlorophenol	mg/kg	2																<2	
TPH	TPH C 6 - C 9 Fraction	mg/kg	10				65						<10		<10				<10	<10
	TPH C10 - C14 Fraction	mg/kg	50										<50		<50				<50	<50
	TPH C15 - C28 Fraction	mg/kg	100										<100		<100				<100	<100
	TPH C29-C36 Fraction	mg/kg	100										<100		<100				<100	<100
	TPH+C10 - C36 (Sum of total)	mg/kg	50				1000						<50		<50				<50	<50
BTEX	Benzene	mg/kg	0.2				1												<0.2	
	Ethylbenzene	mg/kg	0.5				50												<0.5	
	Toluene	mg/kg	0.5				130												<0.5	
	Xylene (m & p)	mg/kg	0.5				25												<0.5	
	Xylene (o)	mg/kg	0.5																<0.5	
VOC	1,1,1,2-tetrachloroethane	mg/kg	0.5																<0.5	
	1,1,1-trichloroethane	mg/kg	0.5					15											<0.5	
	1,1,2,2-tetrachloroethane	mg/kg	0.5																<0.5	
	1,1,2-trichloroethane	mg/kg	0.5					10											<0.5	
	1,1-dichloroethane	mg/kg	0.5					15											<0.5	
	1,1-dichloroethene	mg/kg	0.5					0.3											<0.5	
	1,1-dichloropropene	mg/kg	0.5																<0.5	
	1,2,3-trichloropropane	mg/kg	0.5																<0.5	
	1,2-dibromo-3-chloropropane	mg/kg	0.5																<0.5	
	1,2-dichloroethane	mg/kg	0.5					4											<0.5	
	1,3-dichloropropane	mg/kg	0.5																<0.5	
	Bromomethane	mg/kg	5																<5	
	Carbon tetrachloride	mg/kg	0.5					1											<0.5	
	Chloroethane	mg/kg	5																<5	
	Chloromethane	mg/kg	5																<5	
	cis-1,2-dichloroethene	mg/kg	0.5																<0.5	
	cis-1,4-Dichloro-2-butene	mg/kg	0.5																<0.5	
	Dibromomethane	mg/kg	0.5																<0.5	
	Dichlorodifluoromethane	mg/kg	5																<5	
	Dichloromethane	mg/kg	0.5					10											0.8	
	Hexachlorobutadiene	mg/kg	0.5																<0.5	
	Iodomethane	mg/kg	0.5																<0.5	
	Pentachloroethane	mg/kg	0.5																<0.5	
	TCE	mg/kg	0.5					60											<0.5	
	Tetrachloroethene	mg/kg	0.5					4											<0.5	
	trans-1,2-dichloroethene	mg/kg	0.5																<0.5	
	trans-1,4-Dichloro-2-butene	mg/kg	0.5																<0.5	
	Trichlorofluoromethane	mg/kg	5																<5	
	Vinyl chloride	mg/kg	5					0.1											<5	

Notes: Fill colour denotes concentration exceeds investigation level
*Based upon the value of free cyanide
Total as Chromium (III)

											Southern Portion								
										Field_ID	TP19_0.0-0.1	TP20_0.0-0.1	TP21_0.0-0.1	TP22_0.0-0.1	TP22_0.2-0.3	TP23_0.25-0.35	TP24_0.1-0.2	TP25_0.0-0.1	TP25_0.4-0.5
										Sampled_Date	7/04/2010	7/04/2010	7/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010
Chem_Group	**ChemName**	**output unit**	**EQL**	**NEPM 1999 EIL**	**ANZECC/NHRMC 1992 EIL**	**NEPM 1999 HIL A**	**NSW EPA 1994 Sensitive Land Use**	**Dutch Intervention Level 2000**	**NEPM 1999 HIL E**	**NEPM 1999 HIL F**									
	Moisture	%	1								13.4	8.3	10.6	8.8	12	11.4	7.3	15.5	8.2
Inorganics	Cyanide Total	mg/kg	1			500			1000	2500									
	Asbestos	Presence	y/n																
Metals	Arsenic	mg/kg	5	20		100			200	500	<5	<5	<5	5		10	6		6
	Barium	mg/kg	10	300															
	Berryllium	mg/kg	1			20			40	100									
	Cadmium	µg/kg	1000	3000		20000			40000	100000	<1000	<1000	<1000	<1000		<1000	<1000		<1000
	Chromium #	mg/kg	2	400		12%			24%	60%	21	20	19	12		13	10		20
	Chromium (hexavalent)	mg/kg	0.5	1		100			200	500									
	Cobalt	mg/kg	2			100			200	500									
	Copper	mg/kg	5	100		1000			2000	5000	12	13	14	11		22	17		21
	Iron	mg/kg	50																
	Lead	mg/kg	5	600		300			600	1500	24	26	17	16		26	20		36
	Manganese	mg/kg	5	500		1500			3000	7500									
	Mercury	µg/kg	100	1000		15000			30000	75000	300	<100	<100	<100		<100	<100		300
	Nickel	mg/kg	2	60		600			600	3000	10	9	10	7		6	8		16
	Silver	mg/kg	2																
	Zinc	mg/kg	5	200		7000			14000	35000	26	48	38	46		49	54		94
OCP	4,4-DDE	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	DDD	mg/kg	0.05			200			400	1000	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	DDT	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2		<0.2	<0.2		<0.2
	a-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Aldrin	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Dieldrin	mg/kg	0.05		0.2						<0.05	<0.05	<0.05	<0.05		0.06	0.08		<0.05
	b-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Chlordane (cis)	mg/kg	0.05			50			100	250	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Chlordane (trans)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	d-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endosulfan I	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endosulfan II	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endosulfan sulphate	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Endrin ketone	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Heptachlor	mg/kg	0.05			10			20	50	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Hexachlorobenzene	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05
	Methoxychlor	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2		<0.2	<0.2		<0.2
Organophosphorus Pesticides	Chlorpyrifos	mg/kg	0.05																
	Chlorpyrifos-methyl	mg/kg	0.05																
	Diazinon	mg/kg	0.05																
	Dimethoate	mg/kg	0.05																
	Ethion	mg/kg	0.05																
	Bromophos-ethyl	mg/kg	0.05																
Pesticides	Azinophos methyl	mg/kg	0.05																
	Carbophenothion	mg/kg	0.05																
	Chlorfenvinphos	mg/kg	0.05																
	Demeton-S-methyl	mg/kg	0.05																
	Dichlorvos	mg/kg	0.05																
	Fenamiphos	mg/kg	0.05																
	Fenthion	mg/kg	0.05																
	Malathion	mg/kg	0.05																
	Methyl parathion	mg/kg	0.2																
	Monocrotophos	mg/kg	0.2																
	Parathion	mg/kg	0.2																
	Pirimphos-ethyl	mg/kg	0.05																
	Prothiofos	mg/kg	0.05																
Phenoxy Acid Herbicides	2,4,5-T	mg/kg	0.02																
	2,4,5-TP (Silvex)	mg/kg	0.02																
	2,4-D	mg/kg	0.02																
	2,4-DB	mg/kg	0.02																
	4-Chlorophenoxy acetic acid	mg/kg	0.02																
	Clopyralid	mg/kg	0.02																
	Dicamba	mg/kg	0.02																
	Fluroxypyr	mg/kg	0.02																
	MCPA	mg/kg	0.02																
	MCPB	mg/kg	0.02																
	Mecoprop	mg/kg	0.02																
	Picloram	mg/kg	0.02																
	Triclopyr	mg/kg	0.02																
PAH	Acenaphthene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Acenaphthylene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Anthracene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	

Field_ID	TP19_0.0-0.1	TP20_0.0-0.1	TP21_0.0-0.1	TP22_0.0-0.1	TP22_0.2-0.3	TP23_0.25-0.35	TP24_0.1-0.2	TP25_0.0-0.1	TP25_0.4-0.5
Sampled_Date	7/04/2010	7/04/2010	7/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010	8/04/2010

Chem_Group	ChemName	output unit	EQL	NEPM 1999 EIL	ANZECC/NHRMC 1992 EIL	NEPM 1999 HIL A	NSW EPA 1994 Sensitive Land Use	Dutch Intervention Level 2000	NEPM 1999 HIL E	NEPM 1999 HIL F									
	Benz(a)anthracene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Benzo(a) pyrene	mg/kg	0.5			1			2	5			<0.5		<0.5	<0.5	<0.5	<0.5	
	Benzo(b)fluoranthene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Benzo(g,h,i)perylene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Benzo(k)fluoranthene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Chrysene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Dibenz(a,h)anthracene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Fluoranthene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Fluorene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Naphthalene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Phenanthrene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Pyrene	mg/kg	0.5										<0.5		<0.5	<0.5	<0.5	<0.5	
	Total PAH	mg/kg	0.5			20			40	100			<0.5		<0.5	<0.5	<0.5	<0.5	
PCB	PCBs (Sum of total)	mg/kg	0.1		1/01/1900	10			20	50				<0.1				<0.1	
Phenols	2,4,5-trichlorophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2,4-dichlorophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2,4-dimethylphenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2,4-DP	mg/kg	0.02																
	2-chlorophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2-methylphenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	3-&4-methylphenol	mg/kg	1											<1	<1			<1	
	Phenol	mg/kg	0.5			8500			17000	42500				<0.5	<0.5			<0.5	
	2,4,6-trichlorophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2,6-dichlorophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	2-nitrophenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	4-chloro-3-methylphenol	mg/kg	0.5											<0.5	<0.5			<0.5	
	Pentachlorophenol	mg/kg	2											<2	<2			<2	
TPH	TPH C 6 - C 9 Fraction	mg/kg	10				65						<10		<10	<10	<10	<10	
	TPH C10 - C14 Fraction	mg/kg	50										<50		<50	<50	<50	<50	
	TPH C15 - C28 Fraction	mg/kg	100										<100		<100	<100	<100	<100	
	TPH C29-C36 Fraction	mg/kg	100										<100		<100	<100	<100	<100	
	TPH+C10 - C36 (Sum of total)	mg/kg	50				1000						<50		<50	<50	<50	<50	
BTEX	Benzene	mg/kg	0.2				1												
	Ethylbenzene	mg/kg	0.5				50												
	Toluene	mg/kg	0.5				130												
	Xylene (m & p)	mg/kg	0.5				25												
	Xylene (o)	mg/kg	0.5																
VOC	1,1,1,2-tetrachloroethane	mg/kg	0.5																
	1,1,1-trichloroethane	mg/kg	0.5					15											
	1,1,2,2-tetrachloroethane	mg/kg	0.5																
	1,1,2-trichloroethane	mg/kg	0.5					10											
	1,1-dichloroethane	mg/kg	0.5					15											
	1,1-dichloroethene	mg/kg	0.5					0.3											
	1,1-dichloropropene	mg/kg	0.5																
	1,2,3-trichloropropane	mg/kg	0.5																
	1,2-dibromo-3-chloropropane	mg/kg	0.5																
	1,2-dichloroethane	mg/kg	0.5					4											
	1,3-dichloropropane	mg/kg	0.5																
	Bromomethane	mg/kg	5																
	Carbon tetrachloride	mg/kg	0.5					1											
	Chloroethane	mg/kg	5																
	Chloromethane	mg/kg	5																
	cis-1,2-dichloroethene	mg/kg	0.5																
	cis-1,4-Dichloro-2-butene	mg/kg	0.5																
	Dibromomethane	mg/kg	0.5																
	Dichlorodifluoromethane	mg/kg	5																
	Dichloromethane	mg/kg	0.5					10											
	Hexachlorobutadiene	mg/kg	0.5																
	Iodomethane	mg/kg	0.5																
	Pentachloroethane	mg/kg	0.5																
	TCE	mg/kg	0.5					60											
	Tetrachloroethene	mg/kg	0.5					4											
	trans-1,2-dichloroethene	mg/kg	0.5																
	trans-1,4-Dichloro-2-butene	mg/kg	0.5																
	Trichlorofluoromethane	mg/kg	5																
	Vinyl chloride	mg/kg	5					0.1											

Notes: Fill colour denotes concentration exceeds investigation level
*Based upon the value of free cyanide
Total as Chromium (III)

Field Duplicates (SOIL)
Filter: SDG in('EM1003791') and Site_ID IN('21

SDG	EM1003791	EM1003791		EM1003791	EM1003791		EM1003791	Interlab_D	
Field_ID	TP05_0.0-0.1	QC02	**RPD**	TP26_0.27-0.37	QC04	**RPD**	TP05_0.0-0.1	QC01	**RPD**
Sampled_Date-Time	7/04/2010	7/04/2010		8/04/2010	8/04/2010		7/04/2010	7/04/2010	
Chem_Group	**ChemName**	**Units**	**EQL**									
Inorganics	Moisture	%	1	11.1	11.7	5	11	8.5	26	11.1		
Lead	Lead	mg/kg	5	28	29	4	15	18	18	28	18	43
Metals	Arsenic	mg/kg	5 : 2 (Interlab)	<5	<5	0	**42**	**10**	**123**	<5	3.1	47
	Cadmium	µg/kg	1000 : 500 (Interlab)	<1000	<1000	0	<1000	<1000	0	<1000	<500	0
	Chromium	mg/kg	2 : 5 (Interlab)	22	21	5	20	15	29	22	19	15
	Copper	mg/kg	5	20	21	5	13	9	36	20	19	5
	Mercury	µg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0
	Nickel	mg/kg	2 : 5 (Interlab)	11	10	10	11	7	44	11	8.8	22
	Zinc	mg/kg	5	46	52	12	23	18	24	46	37	22
OCP	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlordane (cis)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05		
	Chlordane (trans)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05		
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.05	0
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.05	0
PAH	Acenaphthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Benzo(b)fluoranthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Benzo(g,h,i)perylene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Chrysene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Fluorene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Naphthalene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Phenanthrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
	Pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5						<0.5	<0.1	0
TPH	TPH C 6 - C 9 Fraction	mg/kg	10 : 20 (Interlab)	<10						<10	<20	0
	TPH C10 - C14 Fraction	mg/kg	50	<50						<50	<50	0
	TPH C15 - C28 Fraction	mg/kg	100	<100						<100	<100	0
	TPH C29-C36 Fraction	mg/kg	100	<100						<100	<100	0

*RPDs have only been considered where a concentration is greater than 5 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (5-10 x EQL); 50 (10-30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Field Blanks (WATER)
Filter: SDG in('EM1003791') and Site_ID I

SDG	EM1003791	EM1003791
Field_ID	RB01	TB01
Sampled_Date-Time	9/04/2010	9/04/2010
Sample_Type	Rinsate	Trip_B

Chem_Group	ChemName	Units	EQL		
BTEX	Benzene	µg/L	1		<1
	Ethylbenzene	µg/L	2		<2
	Toluene	µg/L	2		<2
	Xylene (m & p)	µg/L	2		<2
	Xylene (o)	µg/L	2		<2
Lead	Lead	µg/l	1	<1	
Metals	Arsenic	µg/l	1	<1	
	Cadmium	µg/l	0.1	**0.3**	
	Chromium	µg/l	1	<1	
	Copper	µg/l	1	**1**	
	Mercury	µg/l	0.1	<0.1	
	Nickel	µg/l	1	<1	
	Zinc	µg/l	5	**32**	
TPH	TPH C 6 - C 9 Fraction	µg/L	20		<20

Appendix C

Test and delineation pit log and DCP results

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP01**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284383 N 6141402**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP01_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15	TP01_0.15-0.25 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
		TP01_0.9-1.0 PID=0.0 ppm	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP02**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284328 N 6141390**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP02_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP02_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.30	TP02_0.3-0.4	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP02_0.85-0.95								
	1					END OF TEST PIT AT 0.95 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP03**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284263 N 6141411**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP03_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP03_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.20				GM	Limestone layer, dry.				
	0.25	TP03_0.25-0.35	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP03_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP04**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284201 N 6141385**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP04_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.				
	0.20	TP04_0.2-0.3 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	0.30	TP04_0.3-0.4	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP04_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP05**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284098 N 6141392**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP05_0.0-0.1 QC01 & QC02 PID=0.0 ppm	J			FILL, Sandy Clay, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10					FILL, Sandy Clay, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.15	TP05_0.15-0.25 PID=0.0 ppm	J			FILL (reworked natural), Sandy Clay, medium plasticity, fine grained sand, pale and dark brown mottling, slightly moist, organic and calcareous inclusions.				
	0.70	TP05_0.7-0.8	J		CL	Sandy Silty CLAY, medium plasticity, fine grained sand, dark brown, moist, minor organic inclusions.				
	0.80	TP05_0.9-1.0	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP06**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284037 N 6141339**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP06_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP06_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.20				GM	Limestone layer, dry.				
	0.30	TP06_0.3-0.4	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous modules.				
		TP06_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

TP07

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 283962 N 6141370**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP07_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP07_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.40				GM	Limestone layer, dry.				
	0.45	TP07_0.45-0.55			CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown (gradually getting darker with depth), slightly moist, calcareous nodules.	M			
		TP07_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP08**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 283907 N 6141342**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST / FB VL L MD VST D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP08_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.				
	0.45	TP08_0.45-0.55	D		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP09**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 283842 N 6141321**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP09_0.0-0.1 QC03 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15	TP09_0.15-0.25 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.				
	0.25	TP09_0.25-0.35	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
		TP09_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP10**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 283846 N 6141210**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP10_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.25	TP10_0.25-0.35 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.				
	0.50	TP10_0.5-0.6	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
		TP10_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP11**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 283903 N 6141240**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP11_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP11_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, moist (gradually getting dry with depth), calcareous nodules.	D			
		TP11_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP12**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 283956 N 6141222**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP12_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP12_0.1-0.15 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.				
	0.15	TP12_0.15-0.25	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
		TP12_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

TP13

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284014 N 6141257**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP13_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP13_0.1-0.15 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.				
	0.15				GM	Limestone layer, dry.	D			
	0.20	TP13_0.2-0.3	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP13_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP14**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284080 N 6141242**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP14_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15	TP14_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.	D			
	0.35				GM	Limestone layer, dry.				
	0.40	TP14_0.0-0.1	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP14_0.0-0.1	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP15**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284127 N 6141274**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP15_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.20	TP15_0.2-0.3 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.35				GM	Limestone layer, dry.				
	0.40	TP15_0.4-0.5	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP15_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP16**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284157 N 6141218**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP16_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15	TP16_0.15-0.25 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.25	TP16_0.25-0.35	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP16_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP17**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284213 N 6141261**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP17_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP17_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.35	TP17_0.45-0.55	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP17_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP18**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284318 N 6141246**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP18_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, black, slightly moist, organic inclusions.	M			
	0.10	TP18_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.60	TP18_0.6-0.7	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP18_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP19**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284376 N 6141286**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP19_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.25	TP19_0.25-0.35 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, moist, minor organic inclusions.	D			
	0.45	TP19_0.45-0.55	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP19_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

TP20

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284374 N 6141102**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY: VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP20_0.0-0.1 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.15	TP20_0.15-0.25	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.65	TP20_0.65-0.75	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP20_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

TP21

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**7/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**7/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284378 N 6140982**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP21_0.0-0.1 PID=0.0 ppm	J			FILL, Gravelly Sandy Clay, medium plasticity clay, angular gravels to 20 mm, fine to coarse sand, brown, moist, ash and very occational cinder inclusions.	M			
	0.15	TP21_0.15-0.25 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.				
	0.25	TP21_0.25-0.35	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.50	TP21_0.5-0.6	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP21_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. TP22

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284287 N 6140954**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP22_0.0-0.1 PID=0.0 ppm	J			FILL, Silty Sandy Gravel, angular gravels to 20 mm, fine to coarse sand, brown, moist, organic inclusions.	M			
	0.10	TP22_0.1-0.2 PID=0.0 ppm	J			FILL (road base), Silty Sandy Gravel, angular gravels to 20 mm, fine to coarse sand, grey, moist.				
	0.20	TP22_0.2-0.3	J			FILL, Sandy Gravelly Clay, medium plasticity, subangular gravels to 30 mm (various materials), slightly moist, slag and cinder inclusions.				
	0.35	TP22_0.35-0.45	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, slightly moist, minor organic inclusions.				
	0.70	TP22_0.7-0.8	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
	1									
	1.20	TP22_1.3-1.4	J		CL	CLAY, medium plasticity, firm, red and brown mottling, slightly moist, white calcareous inclusions.	M			
						END OF TEST PIT AT 1.40 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

TP23

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284242 N 6140979**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP23_0.0-0.1 PID=0.0 ppm	J			FILL, Silty Gravelly Sand, fine to coarse sand, gravels to 63 mm with some cobbles to 150 mm, brown to grey, moist, old tar asphalt inclusions, organics inclusions in top 100 mm.	M			
	1.00 1				CL	Sandy CLAY, medium plasticity, fine grained sand, brown gradually getting lighter with depth, slightly moist, minor organic inclusions.				
		TP23_1.1-1.2 PID=0.0 ppm	J							
		TP23_1.4-1.5 PID=0.0 ppm	J							
						END OF TEST PIT AT 1.50 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP24**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284206 N 6140956**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST H / FB VL L MD D VD)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP24_0.0-0.1 PID=0.0 ppm	J			FILL (road base), Silty Sandy Gravel, angular gravels to 20 mm, fine to coarse sand, orange-brown, moist, organic inclusions.	M			
	0.10	TP24_0.1-0.2 PID=0.0 ppm	J			As above but no organics, dark grey, occasional cinder inclusions.				
	0.20	TP24_0.2-0.3 PID=0.2 ppm	J			As above but light grey, single red brick inclusion.				
	0.30	TP24_0.3-0.4	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.80	TP24_0.9-1.0 PID=0.0 ppm	J		CL	CLAY, medium plasticity, fine grained sand, mottled brown and pale brown/white, moist, trace fine grained sand.	M			
	1					END OF TEST PIT AT 1.40 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

TP25

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284201 N 6141025**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP25_0.0-0.1 PID=0.0 ppm	J			FILL, Silty Sand, fine to coarse sand, dark brown, moist, occasional gravels, organic, old asphalt, steel rio and brick inclusions.	M			
	0.40	TP25_0.4-0.5	J			FILL (building rubble), Silty Sandy Cobbles and Boulders, light brown, dry, roof tile, concrete, red brick, PVC pipe, wire, and vinyl inclusions.	D			
	1.00 1	TP25_1.0-1.1	J		SM	Clayey SILT, medium plasticity, brown with some dark mottling, moisture increasing with depth, minor organic inclusions, trace sand.	M			
		TP25_1.4-1.5	J							
						END OF TEST PIT AT 1.50 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP26**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284162 N 6141123**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						BITUMEN	D			
	0.07	TP26_0.07-0.17 QC04 & QC05 PID=0.0 ppm	J			FILL (road base), Sandy Gravel, angular gravels to 20 mm, fine to coarse sand, pale yellow, dry.				
	0.22					OLD BITUMEN				
	0.27	TP26_0.27-0.37 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moisture increasing with depth, minor organic inclusions.	M			
		TP26_0.6-0.7	J							
	0.80				CL	As above but red-brown.				
		TP26_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

TP27

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284244 N 6141146**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / DEPTH Below top of Sleeper (m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP27_0.0-0.05 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10	TP27_0.1-0.2 PID=0.0 ppm	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.50	TP27_0.5-0.6	J		CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP27_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP28**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284129 N 6141076**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP28_0.0-0.1 PID=0.2 ppm	J			FILL, Clayey Sand, fine to medium grained sand, low plasticity, dark brown, moist, with organic inclusions.	M			
	0.15	TP28_0.2-0.3 PID=0.0 ppm	J			FILL (building rubble), Silty Sand, fine to coarse grained, dry, red brick, wood, ceramic, concrete, render, and fibrous plaster inclusions.	D			
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1									
	1.30	TP28_1.4-1.5	J		CL	Silty CLAY, medium plasticity, pale brown with some grey and red mottling, slightly moist, trace sand, minor organic inclusions.	M			
						END OF TEST PIT AT 1.60 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP29**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284231 N 6141069**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) / **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY (VS S F ST VST / FB VL L MD D VD H)	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP29_0.0-0.1 PID=0.0 ppm	J			FILL, Sandy Clay, low plasticity, fine to coarse grained sand, dark brown, moist.	M			
	0.15	TP29_0.2-0.3 PID=0.0 ppm	J			FILL (building rubble), Silty Sandy Gravel, angular gravels to 20 mm, fine to coarse grained sand, dry, red brick, wood, ceramic, concrete, glass, metal, and plastic inclusions.	D			
	0.70	TP29_0.8-0.9	J		CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO. **TP30**

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**9/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**9/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284353 N 6141038**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
		TP30_0.0-0.1	J			FILL, Sandy Clay, medium plasticity, fine to medium grained sand, dark brown, moist.	M			
	0.20					FILL, Silty Gravelly Sand, fine to coarse grained sand, sub angular gravels to 20 mm, brown, dry, with occasional brick, cement, and steel pipe inclusions.	D			
		TP30_0.3-0.4	J							
	0.60				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
		TP30_0.6-0.7	J							
		TP30_0.9-1.0	J							
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP01

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284129 N 6141094**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	M			
	0.20					As above but pale brown, dry, less building rubble.	D			
	0.80				CL	Silty CLAY				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP02

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 2844127 N 6141085**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Silty Sand, dark brown, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.25					As above but pale brown.				
	0.40				CL	Silty CLAY.				
	1					END OF TEST PIT AT 0.80 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP03

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284135 N 6141057**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Silty Sand, fine to coarse grained, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	1									
	1.10				CL	Silty CLAY.				
						END OF TEST PIT AT 1.30 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP04

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284135 N 6141046**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
	0.10				CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.30				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic and red brick inclusions.	D			
					CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous modules.				
	1					END OF TEST PIT AT 0.70 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP05

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284156 N 6141077**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
	0.05					FILL (bitumen).	D			
	0.10					FILL (road base), Sandy Gravel, angular gravels to 30 mm, pale yellow, dry.				
						FILL, dolomite gravel, grey, slightly moist.	M			
	0.20				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, slightly moist, minor organic inclusions.				
						END OF TEST PIT AT 0.90 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP06

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284147 N 6141080**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
	0.05					FILL (bitumen).	D			
	0.10					FILL (road base), Sandy Gravel, angular gravels to 30 mm, pale yellow, dry.				
						FILL, dolomite gravel, grey, slightly moist.	M			
	0.25					FILL, Sand, fine graned, yellow, moist.				
	1					END OF TEST PIT AT 0.55 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP07

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284139 N 6141076**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Silty Sand, fine to coarse grained, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP08

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284239 N 6141057**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Clayey Sand.	M			
	0.25					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, vinyl floor tile, bitumen, and plastic inclusions.	D			
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP09

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284240 N 6141042**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Clayey Sandy, dark brown.	M			
	0.15					FILL, Silty Sandy Gravels, brown, moist, occasional cobbles, concrete, earthen ware and red brick inclusions.				
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP10

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284183 N 6141069**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, occasional red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.35				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 0.60 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP11

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 2844174 N 6141073**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist.	M			
	0.20					FILL, Sandy Clay, dark brown, moist, occasional red brick, contrete, earthen ware, and plastic inclusions.	D			
	0.40				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
						END OF TEST PIT AT 0.70 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP12

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284204 N 6141075**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete (to 400 mm), render, bitumen, and plastic inclusions.	D			
	0.40					FILL, Sandy Clay, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous modules, with red brick, concrete, earthen ware and plastic inclusions.				
	1						M			
	1.30				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
						END OF TEST PIT AT 1.40 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP13

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284208 N 6141088**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST FB VL L MD VST D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.25					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.70				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
						END OF TEST PIT AT 0.85 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP14

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284202 N 6141101**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20					FILL, Silty Gravelly Sand, occasional brick, concrete and metal inclusions.	D			
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP15

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284207 N 6141058**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.60				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
						END OF TEST PIT AT 0.80 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP16

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284210 N 6141039**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	1									
	1.10				CL	Silty CLAY.	M			
						END OF TEST PIT AT 1.50 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP17

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284218 N 6141018**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.40				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
						END OF TEST PIT AT 0.60 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP18

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284281 N 6141064**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	1									
	1.10				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	M			
						END OF TEST PIT AT 1.50 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP19

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284286 N 6141057**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
					CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.20				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.40				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 0.80 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP20

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284284 N 6141082**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.70				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP21

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284284 N 6141094**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Silty Gravelly Sand, occasional brick, concrete and ceramic inclusions.	M			
							D			
	1.00 1				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
						END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP22

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284329 N 6141051**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20					FILL, Silty Gravelly Sand, occasional red brick, and concrete inclusions.	D			
	0.40				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	1					END OF TEST PIT AT 0.70 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP23

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284311 N 6141064**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.10					FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, occasioal red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.60				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP24

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284329 N 6141077**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST / FB VL L MD VST D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
					CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.10				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.	D			
	0.40				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
						END OF TEST PIT AT 0.55 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP25

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284304 N 6141048**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
					CL	Sandy CLAY, medium plasticity, fine grained sand, dark brown, moist, organic inclusions.	M			
	0.30				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.	D			
						END OF TEST PIT AT 0.70 m				
	1									

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP26

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**8/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**8/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284344 N 6141033**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST H / FB VL L MD D VD	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
	0.10					FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
						FILL (building rubble), Silty Sand, fine to coarse grained, dark brown, slightly moist, red brick, wood, ceramic, concrete, render, bitumen, and plastic inclusions.	D			
	0.70				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.30 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP27

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**9/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**9/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284351 N 6141009**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Silty Gravelly Sand, occasional brick, concrete and metal inclusions.	M			
							D			
	0.60				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.20 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP28

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**9/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**9/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284324 N 6141024**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.20					FILL, Silty Gravelly Sand, occasional brick, concrete and metal inclusions.	D			
	0.50				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT NO.

TEST PIT ENVIRONMENTAL LOG

DP29

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**9/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**9/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**
Excavation Method:	**Backhoe**	Surface RL:	
		Co-ords:	**E 284113 N 6141139**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST VST / FB VL L MD D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Clayey Sand, dark brown, moist, organic inclusions.	M			
	0.20					FILL (road base), Silty Sandy Gravel, angular gravels to 30 mm, fine to coarse sand, grey, moist.	D			
	0.50				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	0.80				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.10 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

TEST PIT ENVIRONMENTAL LOG

TEST PIT NO.

DP30

SHEET 1 OF 1

Client:	**Land Management Corp**	Date Commenced:	**9/4/10**
Project:	**Portion of the Former Hillcrest Hospital - ESA**	Date Completed:	**9/4/10**
Test Pit Location:	**Hillcrest**	Recorded By:	**HOB**
Project Number:	**2160919A**	Log Checked By:	**ECB**

Excavation Method: **Backhoe**

Surface RL:

Co-ords: **E 284117 N 6141124**

Test Pit Information				Field Material Description						
1	2	3	4	5	6	7	8	9	10	11
WATER	RL(m) **DEPTH Below top of Sleeper (m)**	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION (SOIL NAME; plasticity/grain size, colour, particle shape, secondary components, minor constituents, moisture, relative density/consistency) (ROCK NAME; grain size, colour, weathering, strength, minor constituents)	MOISTURE	RELATIVE DENSITY /CONSISTENCY VS S F ST FB VL L MD VST D VD H	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS (Defects - depth, type, orientation, spacing, planarity, roughness, thickness, coating)
						FILL, Sandy Clay, dark brown, moist, organic inclusions.	M			
	0.30					FILL (road base), Silty Sandy Gravel, angular gravels to 20 mm, fine to coarse sand, grey, moist.	D			
	0.50				CL	Sandy CLAY, medium plasticity, fine grained sand, brown, dry, minor organic inclusions.				
	0.70				CL	Sandy CLAY, medium plasticity, fine grained sand, firm, pale brown, dry, calcareous nodules.				
	1					END OF TEST PIT AT 1.00 m				

This test pit log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

PARSONS BRINCKERHOFF

Explanatory Notes — Soil Description

In engineering terms soil includes every type of uncemented or partially cemented inorganic material found in the ground. In practice, if the material can be remoulded by hand in its field condition or in water it is described as a soil. The dominant soil constituent is given in capital letters, with secondary textures in lower case. The dominant feature is assessed from the Unified Soil Classification system and a soil symbol is used to define a soil layer as follows:

UNIFIED SOIL CLASSIFICATION

The appropriate symbols are selected on the result of visual examination, field tests and available laboratory tests, such as, sieve analysis, liquid limit and plasticity index.

USC Symbol	Description
GW	Well graded gravel
GP	Poorly graded gravel
GM	Silty gravel
GC	Clayey gravel
SW	Well graded sand
SP	Poorly graded sand
SM	Silty sand
SC	Clayey sand
ML	Silt of low plasticity
CL	Clay of low plasticity
OL	Organic soil of low plasticity
MH	Silt of high plasticity
CH	Clay of high plasticity
OH	Organic soil of high plasticity
Pt	Peaty Soil

MOISTURE CONDITION

Dry - Cohesive soils are friable or powdery
Cohesionless soil grains are free-running

Moist - Soil feels cool, darkened in colour
Cohesive soils can be moulded
Cohesionless soil grains tend to adhere

Wet - Cohesive soils usually weakened
Free water forms on hands when handling

For cohesive soils the following codes may also be used:

MC>PL Moisture Content greater than the Plastic Limit.
MC~PL Moisture Content near the Plastic Limit.
MC<PL Moisture Content less than the Plastic Limit.

PLASTICITY

The potential for soil to undergo change in volume with moisture change is assessed from its degree of plasticity. The classification of the degree of plasticity in terms of the Liquid Limit (LL) is as follows:

Description of Plasticity	LL (%)
Low	<35
Medium	35 to 50
High	>50

COHESIVE SOILS - CONSISTENCY

The consistency of a cohesive soil is defined by descriptive terminology such as very soft, soft, firm, stiff, very stiff and hard. These terms are assessed by the shear strength of the soil as observed visually, by the pocket penetrometer values and by resistance to deformation to hand moulding.

A Pocket Penetrometer may be used in the field or the laboratory to provide approximate assessment of unconfined compressive strength of cohesive soils. The values are recorded in kPa, as follows:

Strength	Symbol	Pocket Penetrometer Reading (kPa)
Very Soft	VS	< 25
Soft	S	20 to 50
Firm	F	50 to 100
Stiff	St	100 to 200
Very Stiff	VSt	200 to 400
Hard	H	> 400

COHESIONLESS SOILS - RELATIVE DENSITY

Relative density terms such as very loose, loose, medium, dense and very dense are used to describe silty and sandy material, and these are usually based on resistance to drilling penetration or the Standard Penetration Test (SPT) 'N' values. Other condition terms, such as friable, powdery or crumbly may also be used.

The Standard Penetration Test (SPT) is carried out in accordance with AS 1289, 6.3.1. For completed tests the number of blows required to drive the split spoon sampler 300 mm is recorded as the N value. For incomplete tests the number of blows and the penetration beyond the seating depth of 150 mm are recorded. If the 150 mm seating penetration is not achieved the number of blows to achieve the measured penetration is recorded. SPT correlations may be subject to corrections for overburden pressure and equipment type.

Term	Symbol	Density Index	N Value (blows/0.3 m)
Very Loose	VL	0 to 15	0 to 4
Loose	L	15 to 35	4 to 10
Medium Dense	MD	35 to 65	10 to 30
Dense	D	65 to 85	30 to 50
Very Dense	VD	>85	>50

COHESIONLESS SOILS PARTICLE SIZE DESCRIPTIVE TERMS

Name	Subdivision	Size
Boulders		>200mm
Cobbles		63mm to 200mm
Gravel	coarse	20mm to 63mm
	medium	6mm to 20mm
	fine	2.36mm to 6mm
Sand	coarse	600mm to 2.36mm
	medium	200mm to 600mm
	fine	75mm to 200mm

PARSONS BRINCKERHOFF

Rock Description

The rock is described with strength and weathering symbols as shown below. Other features such as bedding and dip angle are given.

ROCK QUALITY

The fracture spacing is shown where applicable and the Rock Quality Designation (RQD) or Total Core Recovery (TCR) is given where:

$$\text{RQD (\%)} = \frac{\text{Sum of Axial lengths of core > 100mm long}}{\text{total length considered}}$$

$$\text{TCR (\%)} = \frac{\text{length of core recovered}}{\text{length of core run}}$$

ROCK STRENGTH

Rock strength is described using AS1726 & ISRM - Commission on Standardisation of Laboratory & Field Tests, "Suggested method of determining the Uniaxial Compressive Strength of Rock materials & the Point Load Index", as follows:

Term	Symbol	Point Load Index $Is_{(50)}$ (MPa)
Extremely Low	EL	<0.03
Very Low	VL	0.03 to 0.1
Low	L	0.1 to 0.3
Medium	M	0.3 to 1
High	H	1 to 3
Very High	VH	3 to 10
Extremely High	EH	>10

● Diametral Point Load Index test

■ Axial Point Load Index test

ROCK MATERIAL WEATHERING

Rock weathering is described using the following abbreviation and definitions used in AS1726:

Term	Symbol	Definition
Residual soil	RS	Soil developed on extremely weathered rock, the mass structure & substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely weathered	XW	Rock is weathered to such an extent that it has 'soil' properties, ie: it either disintegrates or can be remoulded in water.
Distinctly weathered	DW	Rock strength usually changed by weathering. The rock may be highly discoloured, usually ironstaining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Slightly weathered	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh	FR	Rock shows no sign of decomposition or staining.

DEFECT SPACING/BEDDING THICKNESS

Measured at right angles to defects of same set or bedding.

Term	Defect Spacing	Bedding
Extremely closely spaced	<6 mm 6 to 20 mm	Thinly Laminated Laminated
Very closely spaced	20 to 60 mm	Very Thin
Closely spaced	0.06 to 0.2 m	Thin
Moderately widely spaced	0.2 to 0.6 m	Medium
Widely spaced	0.6 to 2 m	Thick
Very widely spaced	>2 m	Very Thick

DEFECT DESCRIPTION

Symbol	Term
B	Bedding
F	Fault
C	Cleavage
J	Joint
S	Shear Zone
CS	Clay Seam

PLANARITY/ROUGHNESS

Planarity	Description
P	Planar
Un	Undulating
St	Stepped

Roughness	Description
Sm	Smooth
Ro	Rough
Sk	Slickensided

The inclination if defects are measured from the perpendicular to the core axis.

DRILLING METHODS

Symbol	Term
EE	Existing Excavation/Cutting
EX	Excavator
HA	Hand Auger
HQ	Diamond Core – 63mm
JET	Jetting
NMCL	Diamond Core – 52mm
NQ	Diamond Core – 47mm
PT	Push Tube
RAB	Rotary Air Blast
RD	Rotary Blade
RT	Rotary Tricone Bit
TC	Auger TC-Bit
V	Auger V-Bit
WB	Washbone
DT	Diatube
AS	Auger Screwing
BH	Backhoe
CT	Cable Tool Rig

WATER SYMBOLS & DEFINITIONS

▽ **Water level at date shown**

Partial water loss **Water inflow**

◀ **Complete water loss**

NFGWO **No Free Groundwater Observed**

The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.

Graphic Symbols for Soils & Rocks

Typical symbols for soils and rocks are as follows. Combinations of these symbols may be used to indicate mixed materials such as clayey sand.

Soil Symbols

Main components


CLAY


SILT


SAND


GRAVEL


BOULDERS / COBBLES


TOPSOIL


PEAT

Minor Components


Clayey


Silty


Sandy


Gravelly

Other


FILL


BITUMEN


CONCRETE

Rock Symbols

Sedimentary Rocks


SANDSTONE


SILTSTONE


CLAYSTONE, MUDSTONE


SHALE


LAMINITE


COAL


LIMESTONE


CONGLOMERATE

Igneous Rocks


GRANITE


BASALT


UNDIFFERENTIATED IGNEOUS

Metamorphic Rocks


SLATE, PHYLLITE, SCHIST


GNEISS

QUARTZITE

NFGWE No Free Groundwater Encountered: The borehole/test pit was dry soon after excavation; however groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit been left open for a longer period.

These tables are an extract from LANDSLIDE RISK MANAGEMENT CONCEPTS AND GUIDELINES as presented in Australian Geomechanics, Vol. 35, No. 1, 2000 which discusses the matter more fully.

PARSONS BRINCKERHOFF

ABN: 84 797 323 433

Dynamic Cone Penetrometer Test Results

CLIENT	Land Management Corporation	**OFFICE**	ADL
PROJECT	Hillcrest Hospital Site Investigation	**TEST DATE**	8/4/2010
LOCATION	Old Hillcrest Hospital site	**TESTED BY**	ARG
PROJECT NO.	2160919A		
TEST METHOD	AS 1289 6.3.2 - Cone Penetrometer	**TEST EQUIPMENT**	

Depth	Test Location (Blows per 100mm)							
	TP25	TP27	DP02	TP29	TP29(2)	TP29(3)	TP29(4)	DP09
0.0-0.1	1	2	2	3	2	3	3	2
0.1-0.2	2	3	4	5	5	5	7	8
0.2-0.3	5	6	5	20*	20*	20*	20*	12
0.3-0.4	11	9	13					9
0.4-0.5	18	12	11					8
0.5-0.6	20*	13	6					8
0.6-0.7		14	7					10
0.7-0.8		11	15					20*
0.8-0.9		7	15					
0.9-1.0		6	16					
1.0-1.1		5	15					
1.1-1.2		5	12					
1.2-1.3		5	8					
1.3-1.4		4	5					
1.4-1.5		4	5					
1.5-1.6		5	4					
1.6-1.7		5	3					
1.7-1.8		5	4					
1.8-1.9		5	5					
1.9-2.0		6	5					
2.0-2.1			4					
2.1-2.2								
2.2-2.3								
2.3-2.4								

*** Denotes refusal on suspected building rubble**

Appendix D

Photographs

Photo 1 **Test-pit 03, indicative of soil profile encountered in northern portion of the site**

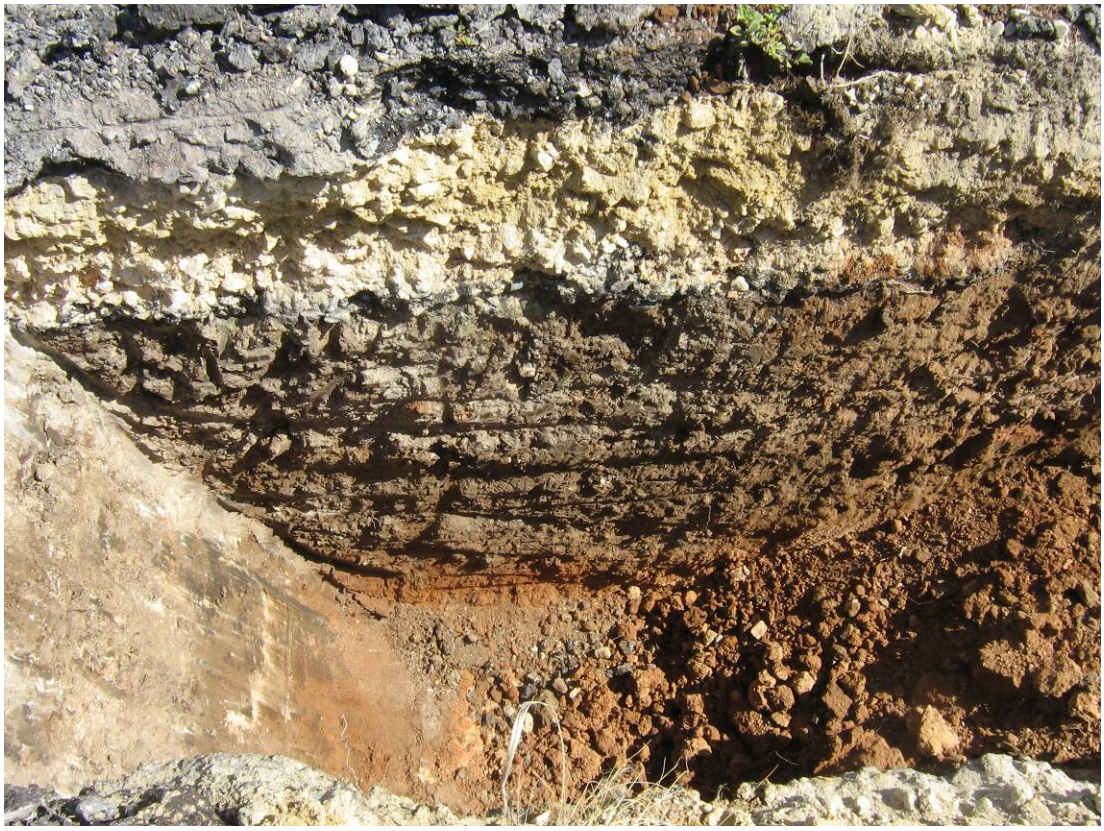


Photo 2 **Test-pit 26 showing fill materials and multiple layers of asphalt surfacing**

Photo 3 **Delineation-pit 18 showing buried building demolition material**

Photo 4 **Stockpile of excavated waste materials including concrete, bricks and soil from delineation-pit 18**

Photo 5 **Test-pit 28 located in the vicinity of the former Ward 3 building, showing buried building demolition material**

Photo 6 **Trench 1 located to the east of the former Ward 3 building**

Photo 7 **Trench 2 showing the numerous underground services intersected**

Photo 8 **Concrete slab and waste materials in the vicinity of the former Ward 3 building**

Photo 9 **Asphalt and asbestos cement piping disposed in the vicinity of the former Ward 3 building**

Appendix E

Laboratory certificates and chain of custody documentation

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **EM1003791**	Page	: 1 of 33
Client	: **PARSONS BRINCKERHOFF AUST P/L**	Laboratory	: Environmental Division Melbourne
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Project	: 2160919A	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 13-APR-2010
Sampler	: HOB, ECB	Issue Date	: 21-APR-2010
Site	: HILLCREST HOSPITAL ESA		
		No. of samples received	: 123
Quote number	: EN/008/09	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Senior Inorganic Instrument Chemist	Inorganics
Lana Nguyen	LCMS Chemist	Organics
Nancy Wang	Instrument Chemist	Organics
Terrance Hettipathirana	Team Leader - Metals	Inorganics
Xingbin Lin	Instrument Chemist	Organics

General Comments

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

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

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

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

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG 048: EM 1003791, Sample #26 matrix spike failed for Total Hexavalent Chromium by Alkaline Digestion due to possible sample matrix interference.**
- **EG020-T: EM1003791-002 has been confirmed for Cadmium, Copper and Zinc by re-preparation and re-analysis by ICP-MS.**
- **Phenoxyacetic Acid Herbicides conducted by ALS Sydney, NATA accreditation no. 825, site no 10911**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	TP01_0.0-0.1	TP02_0.0-0.1	TP03_0.0-0.1	TP04_0.0-0.1	TP05_0.0-0.1
				Client sampling date / time	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
					EM1003791-003	EM1003791-006	EM1003791-010	EM1003791-014	EM1003791-018
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**11.3**	**9.8**	**13.6**	**12.5**	**11.1**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**24**	**23**	**23**	**30**	**22**
Copper	7440-50-8	5	mg/kg		**14**	**14**	**15**	**15**	**20**
Lead	7439-92-1	5	mg/kg		**30**	**24**	**49**	**15**	**28**
Nickel	7440-02-0	2	mg/kg		**12**	**13**	**11**	**14**	**11**
Zinc	7440-66-6	5	mg/kg		**30**	**25**	**37**	**23**	**46**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		**0.3**	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP01_0.0-0.1	TP02_0.0-0.1	TP03_0.0-0.1	TP04_0.0-0.1	TP05_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-003	EM1003791-006	EM1003791-010	EM1003791-014	EM1003791-018
EP068B: Organophosphorus Pesticides (OP) - Continued								
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	<50

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP01_0.0-0.1	TP02_0.0-0.1	TP03_0.0-0.1	TP04_0.0-0.1	TP05_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-003	EM1003791-006	EM1003791-010	EM1003791-014	EM1003791-018
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	----	----	----	----
2.4-DB	94-82-6	0.02	mg/kg	<0.02	----	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	<0.02	----	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	<0.02	----	----	----	----
MCPA	94-74-6	0.02	mg/kg	<0.02	----	----	----	----
2.4-DP	120-36-5	0.02	mg/kg	<0.02	----	----	----	----
2.4-D	94-75-7	0.02	mg/kg	<0.02	----	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	----	----	----	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	----	----	----	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	----	----	----	----
MCPB	94-81-5	0.02	mg/kg	<0.02	----	----	----	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	----	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	----	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**94.0**	**60.1**	**99.1**	**88.2**	**85.6**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**114**	**89.2**	**120**	**110**	**99.7**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**75.9**	----	----	----	**76.8**
2-Chlorophenol-D4	93951-73-6	0.1	%	**76.1**	----	----	----	**76.4**
2.4.6-Tribromophenol	118-79-6	0.1	%	**62.9**	----	----	----	**79.5**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**82.8**	----	----	----	**87.5**
Anthracene-d10	1719-06-8	0.1	%	**120**	----	----	----	**115**
4-Terphenyl-d14	1718-51-0	0.1	%	**89.9**	----	----	----	**102**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**110**	----	----	----	**97.1**
Toluene-D8	2037-26-5	0.1	%	**107**	----	----	----	**98.1**
4-Bromofluorobenzene	460-00-4	0.1	%	**101**	----	----	----	**95.8**
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.1	%	**116**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-022	EM1003791-026	EM1003791-027	EM1003791-030	EM1003791-032
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**11.0**	**10.2**	**7.5**	**12.0**	**14.7**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	----	----	----
Barium	7440-39-3	10	mg/kg	----	**80**	----	----	----
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	**25**	----	----	----
Cobalt	7440-48-4	2	mg/kg	----	**9**	----	----	----
Copper	7440-50-8	5	mg/kg	----	**14**	----	----	----
Iron	7439-89-6	50	mg/kg	----	**14000**	----	----	----
Lead	7439-92-1	5	mg/kg	----	**37**	----	----	----
Manganese	7439-96-5	5	mg/kg	----	**290**	----	----	----
Nickel	7440-02-0	2	mg/kg	----	**13**	----	----	----
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Zinc	7440-66-6	5	mg/kg	----	**30**	----	----	----
Arsenic	7440-38-2	5	mg/kg	<5	----	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**26**	----	**21**	**24**	**26**
Copper	7440-50-8	5	mg/kg	**15**	----	**10**	**14**	**14**
Lead	7439-92-1	5	mg/kg	**25**	----	**10**	**34**	**32**
Nickel	7440-02-0	2	mg/kg	**13**	----	**10**	**12**	**13**
Zinc	7440-66-6	5	mg/kg	**29**	----	**16**	**30**	**28**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	----	<0.10	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-022	EM1003791-026	EM1003791-027	EM1003791-030	EM1003791-032
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
Methylene chloride	75-09-2	0.5	mg/kg	----	<0.7	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-022	EM1003791-026	EM1003791-027	EM1003791-030	EM1003791-032
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP06_0.0-0.1	TP07_0.0-0.1	TP07_0.1-0.2	TP08_0.0-0.1	TP09_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-022	EM1003791-026	EM1003791-027	EM1003791-030	EM1003791-032
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**87.6**	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**97.3**	**97.0**	**96.7**	**75.3**	**100**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**115**	**112**	**118**	**87.7**	**119**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**90.4**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**99.0**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**88.9**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**79.3**	----	----	**75.6**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**77.3**	----	----	**74.0**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**75.4**	----	----	**74.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**79.5**	----	----	**85.9**
Anthracene-d10	1719-06-8	0.1	%	----	**109**	----	----	**97.2**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**106**	----	----	**92.8**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**97.3**	----	----	**86.2**
Toluene-D8	2037-26-5	0.1	%	----	**95.6**	----	----	**94.7**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**87.2**	----	----	**86.6**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	TP10_0.0-0.1	TP11_0.0-0.1	TP12_0.0-0.1	TP13_0.0-0.1	TP14_0.0-0.1
				Client sampling date / time	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
					EM1003791-036	EM1003791-040	EM1003791-043	EM1003791-046	EM1003791-050
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**12.0**	**11.8**	**14.3**	**11.2**	**12.8**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**20**	**19**	**21**	**21**	**23**
Copper	7440-50-8	5	mg/kg		**12**	**11**	**11**	**12**	**13**
Lead	7439-92-1	5	mg/kg		**33**	**22**	**23**	**24**	**25**
Nickel	7440-02-0	2	mg/kg		**10**	**10**	**10**	**10**	**12**
Zinc	7440-66-6	5	mg/kg		**26**	**22**	**26**	**26**	**40**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP10_0.0-0.1	TP11_0.0-0.1	TP12_0.0-0.1	TP13_0.0-0.1	TP14_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-036	EM1003791-040	EM1003791-043	EM1003791-046	EM1003791-050
EP068B: Organophosphorus Pesticides (OP) - Continued								
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	<50

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP10_0.0-0.1	TP11_0.0-0.1	TP12_0.0-0.1	TP13_0.0-0.1	TP14_0.0-0.1
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-036	EM1003791-040	EM1003791-043	EM1003791-046	EM1003791-050
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	----	<0.02	----	----	----
2.4-DB	94-82-6	0.02	mg/kg	----	<0.02	----	----	----
Dicamba	1918-00-9	0.02	mg/kg	----	<0.02	----	----	----
Mecoprop	93-65-2	0.02	mg/kg	----	<0.02	----	----	----
MCPA	94-74-6	0.02	mg/kg	----	<0.02	----	----	----
2.4-DP	120-36-5	0.02	mg/kg	----	<0.02	----	----	----
2.4-D	94-75-7	0.02	mg/kg	----	<0.02	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg	----	<0.02	----	----	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	----	<0.02	----	----	----
2.4.5-T	93-76-5	0.02	mg/kg	----	<0.02	----	----	----
MCPB	94-81-5	0.02	mg/kg	----	<0.02	----	----	----
Picloram	1918-02-1	0.02	mg/kg	----	<0.02	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg	----	<0.02	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg	----	<0.02	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**83.4**	**91.6**	**107**	**106**	**89.3**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**93.7**	**107**	**125**	**125**	**104**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**77.3**	----	**75.9**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**75.4**	----	**76.0**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**82.2**	----	**74.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**87.7**	----	**89.9**
Anthracene-d10	1719-06-8	0.1	%	----	----	**110**	----	**114**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**102**	----	**102**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**95.4**	----	**103**
Toluene-D8	2037-26-5	0.1	%	----	----	**95.9**	----	**97.8**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**94.8**	----	**92.9**
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.1	%	----	**102**	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP15_0.0-0.1	TP16_0.0-0.1	TP17_0.0-0.1	TP18_0.0-0.1	TP18_0.1-0.2
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-054	EM1003791-058	EM1003791-062	EM1003791-066	EM1003791-067
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**10.5**	**9.9**	**9.0**	**20.0**	**10.1**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	----	<5	----
Barium	7440-39-3	10	mg/kg	----	----	----	**80**	----
Beryllium	7440-41-7	1	mg/kg	----	----	----	<1	----
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	----
Chromium	7440-47-3	2	mg/kg	----	----	----	**18**	----
Cobalt	7440-48-4	2	mg/kg	----	----	----	**10**	----
Copper	7440-50-8	5	mg/kg	----	----	----	**136**	----
Iron	7439-89-6	50	mg/kg	----	----	----	**7840**	----
Lead	7439-92-1	5	mg/kg	----	----	----	**64**	----
Manganese	7439-96-5	5	mg/kg	----	----	----	**90**	----
Nickel	7440-02-0	2	mg/kg	----	----	----	**8**	----
Silver	7440-22-4	2	mg/kg	----	----	----	<2	----
Zinc	7440-66-6	5	mg/kg	----	----	----	**248**	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	**22**	**16**	**21**	----	**22**
Copper	7440-50-8	5	mg/kg	**12**	**11**	**11**	----	**32**
Lead	7439-92-1	5	mg/kg	**21**	**13**	**20**	----	**16**
Nickel	7440-02-0	2	mg/kg	**10**	**9**	**10**	----	**9**
Zinc	7440-66-6	5	mg/kg	**35**	**18**	**23**	----	**107**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	**0.2**	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	----	<0.5	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	----	<1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	----	----	----	<0.50	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP15_0.0-0.1	TP16_0.0-0.1	TP17_0.0-0.1	TP18_0.0-0.1	TP18_0.1-0.2
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-054	EM1003791-058	EM1003791-062	EM1003791-066	EM1003791-067
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<1.0	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.25	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<1.0	<0.2
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	----
Methylene chloride	75-09-2	0.5	mg/kg	----	----	----	**0.8**	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP15_0.0-0.1 Client sampling date / time: 07-APR-2010 15:00 EM1003791-054	TP16_0.0-0.1 07-APR-2010 15:00 EM1003791-058	TP17_0.0-0.1 07-APR-2010 15:00 EM1003791-062	TP18_0.0-0.1 07-APR-2010 15:00 EM1003791-066	TP18_0.1-0.2 07-APR-2010 15:00 EM1003791-067
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	----	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	----	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	----	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP15_0.0-0.1	TP16_0.0-0.1	TP17_0.0-0.1	TP18_0.0-0.1	TP18_0.1-0.2
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00
				EM1003791-054	EM1003791-058	EM1003791-062	EM1003791-066	EM1003791-067
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**86.0**	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**72.1**	**93.4**	**97.8**	**104**	**105**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**104**	**104**	**114**	**111**	**130**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**85.1**	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	**93.2**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**80.1**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	**79.8**	**76.9**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**80.2**	**76.7**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**81.3**	**82.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**90.9**	**89.1**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**92.1**	**108**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**101**	**97.9**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**91.0**	**95.6**
Toluene-D8	2037-26-5	0.1	%	----	----	----	**89.9**	**104**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**80.1**	**99.3**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP19_0.0-0.1 Client sampling date / time: 07-APR-2010 15:00 EM1003791-070	TP20_0.0-0.1 07-APR-2010 15:00 EM1003791-074	TP21_0.0-0.1 07-APR-2010 15:00 EM1003791-078	TP22_0.0-0.1 08-APR-2010 15:00 EM1003791-083	TP22_0.2-0.3 08-APR-2010 15:00 EM1003791-085
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	13.4	8.3	10.6	8.8	12.0
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	21	20	19	12	----
Copper	7440-50-8	5	mg/kg	12	13	14	11	----
Lead	7439-92-1	5	mg/kg	24	26	17	16	----
Nickel	7440-02-0	2	mg/kg	10	9	10	7	----
Zinc	7440-66-6	5	mg/kg	26	48	38	46	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	----	----	----	<0.10	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP19_0.0-0.1	TP20_0.0-0.1	TP21_0.0-0.1	TP22_0.0-0.1	TP22_0.2-0.3
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-070	EM1003791-074	EM1003791-078	EM1003791-083	EM1003791-085
EP075(SIM)A: Phenolic Compounds - Continued								
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP19_0.0-0.1	TP20_0.0-0.1	TP21_0.0-0.1	TP22_0.0-0.1	TP22_0.2-0.3
				Client sampling date / time: 07-APR-2010 15:00	07-APR-2010 15:00	07-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-070	EM1003791-074	EM1003791-078	EM1003791-083	EM1003791-085
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	<50
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**57.5**	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**52.4**	**68.2**	**73.5**	**72.8**	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**60.4**	**76.2**	**79.7**	**79.7**	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**76.5**	**77.2**	**71.5**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**78.4**	**77.6**	**73.1**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**86.2**	**78.4**	**75.1**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**90.5**	**89.3**	**82.5**
Anthracene-d10	1719-06-8	0.1	%	----	----	**104**	**109**	**116**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**97.8**	**98.1**	**105**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**98.1**	----	**92.9**
Toluene-D8	2037-26-5	0.1	%	----	----	**102**	----	**91.3**
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**98.1**	----	**89.4**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	TP23_0.25-0.35	TP24_0.1-0.2	TP25_0.0-0.1	TP25_0.4-0.5	TP26_0.27-0.37
				Client sampling date / time	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
					EM1003791-090	EM1003791-094	EM1003791-097	EM1003791-098	EM1003791-102
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**11.4**	**7.3**	**15.5**	**8.2**	**11.0**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**10**	**6**	----	**6**	**42**
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg		**13**	**10**	----	**20**	**20**
Copper	7440-50-8	5	mg/kg		**22**	**17**	----	**21**	**13**
Lead	7439-92-1	5	mg/kg		**26**	**20**	----	**36**	**15**
Nickel	7440-02-0	2	mg/kg		**6**	**8**	----	**16**	**11**
Zinc	7440-66-6	5	mg/kg		**49**	**54**	----	**94**	**23**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	**0.3**	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.10	mg/kg		----	----	<0.10	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		**0.06**	**0.08**	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	----	<0.2	<0.2
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP23_0.25-0.35	TP24_0.1-0.2	TP25_0.0-0.1	TP25_0.4-0.5	TP26_0.27-0.37
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-090	EM1003791-094	EM1003791-097	EM1003791-098	EM1003791-102
EP075(SIM)A: Phenolic Compounds - Continued								
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	TP23_0.25-0.35	TP24_0.1-0.2	TP25_0.0-0.1	TP25_0.4-0.5	TP26_0.27-0.37
				Client sampling date / time	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
					EM1003791-090	EM1003791-094	EM1003791-097	EM1003791-098	EM1003791-102
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**44.0**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**71.8**	**73.8**	----	**81.1**	**81.6**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**75.8**	**83.2**	----	**84.0**	**90.5**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**75.0**	**78.0**	**79.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**76.5**	**80.1**	**81.5**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**79.5**	**75.8**	**86.1**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**85.8**	**90.0**	**90.8**	----	----
Anthracene-d10	1719-06-8	0.1	%		**115**	**119**	**120**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**104**	**108**	**102**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**103**	**91.6**	**102**	----	----
Toluene-D8	2037-26-5	0.1	%		**101**	**94.4**	**100**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**97.3**	**90.2**	**97.9**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP27_0.0-0.05	TP28_0.0-0.1	TP28_0.2-0.3	TP28_1.4-1.5	TP29_0.0-0.1
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-105	EM1003791-109	EM1003791-110	EM1003791-111	EM1003791-112
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**13.6**	**18.1**	**9.2**	**22.1**	**13.6**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	**5**	----	----
Barium	7440-39-3	10	mg/kg	----	----	**160**	----	----
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	----
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	----
Chromium	7440-47-3	2	mg/kg	----	----	**21**	----	----
Cobalt	7440-48-4	2	mg/kg	----	----	**6**	----	----
Copper	7440-50-8	5	mg/kg	----	----	**12**	----	----
Iron	7439-89-6	50	mg/kg	----	----	**11200**	----	----
Lead	7439-92-1	5	mg/kg	----	----	**66**	----	----
Manganese	7439-96-5	5	mg/kg	----	----	**150**	----	----
Nickel	7440-02-0	2	mg/kg	----	----	**10**	----	----
Silver	7440-22-4	2	mg/kg	----	----	<2	----	----
Zinc	7440-66-6	5	mg/kg	----	----	**62**	----	----
Arsenic	7440-38-2	5	mg/kg	<5	----	----	**8**	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	<1	----
Chromium	7440-47-3	2	mg/kg	**19**	----	----	**22**	----
Copper	7440-50-8	5	mg/kg	**12**	----	----	**7**	----
Lead	7439-92-1	5	mg/kg	**24**	----	----	**8**	----
Nickel	7440-02-0	2	mg/kg	**8**	----	----	**9**	----
Zinc	7440-66-6	5	mg/kg	**37**	----	----	**20**	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	**0.1**	<0.1	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	----	----	<0.10	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP27_0.0-0.05	TP28_0.0-0.1	TP28_0.2-0.3	TP28_1.4-1.5	TP29_0.0-0.1
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-105	EM1003791-109	EM1003791-110	EM1003791-111	EM1003791-112
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	**0.17**
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	----
Methylene chloride	75-09-2	0.5	mg/kg	----	----	<0.7	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP27_0.0-0.05	TP28_0.0-0.1	TP28_0.2-0.3	TP28_1.4-1.5	TP29_0.0-0.1
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-105	EM1003791-109	EM1003791-110	EM1003791-111	EM1003791-112
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	----	**0.5**	----	----
Pyrene	129-00-0	0.5	mg/kg	----	----	**0.5**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP27_0.0-0.05	TP28_0.0-0.1	TP28_0.2-0.3	TP28_1.4-1.5	TP29_0.0-0.1
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-105	EM1003791-109	EM1003791-110	EM1003791-111	EM1003791-112
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**48.0**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**70.2**	**77.4**	**74.5**	----	**109**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**84.4**	**87.8**	**60.0**	----	**103**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**91.3**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**99.4**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**84.6**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	**82.8**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	**84.3**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	**86.4**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**94.4**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**109**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**102**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**97.3**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**96.2**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**83.3**	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP29_0.2-0.3	TP29_0.8-0.9	TP30_0.3-0.4	QC02	QC04
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	09-APR-2010 15:00	07-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-113	EM1003791-114	EM1003791-116	EM1003791-119	EM1003791-121
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**4.1**	**22.6**	**12.1**	**11.7**	**8.5**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Barium	7440-39-3	10	mg/kg	**70**	----	----	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	**13**	----	----	----	----
Cobalt	7440-48-4	2	mg/kg	**2**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**12**	----	----	----	----
Iron	7439-89-6	50	mg/kg	**7410**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**22**	----	----	----	----
Manganese	7439-96-5	5	mg/kg	**107**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	**5**	----	----	----	----
Silver	7440-22-4	2	mg/kg	<2	----	----	----	----
Zinc	7440-66-6	5	mg/kg	**58**	----	----	----	----
Arsenic	7440-38-2	5	mg/kg	----	<5	<5	<5	**10**
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	**30**	**19**	**21**	**15**
Copper	7440-50-8	5	mg/kg	----	**16**	**15**	**21**	**9**
Lead	7439-92-1	5	mg/kg	----	**10**	**10**	**29**	**18**
Nickel	7440-02-0	2	mg/kg	----	**18**	**12**	**10**	**7**
Zinc	7440-66-6	5	mg/kg	----	**23**	**20**	**52**	**18**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	----
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP29_0.2-0.3	TP29_0.8-0.9	TP30_0.3-0.4	QC02	QC04
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	09-APR-2010 15:00	07-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-113	EM1003791-114	EM1003791-116	EM1003791-119	EM1003791-121
EP068A: Organochlorine Pesticides (OC) - Continued								
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	**0.13**	----	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	<0.2	<0.2
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	----	----
Methylene chloride	75-09-2	0.5	mg/kg	<0.7	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP29_0.2-0.3 Client sampling date / time: 08-APR-2010 15:00 EM1003791-113	Client sample ID: TP29_0.8-0.9 Client sampling date / time: 08-APR-2010 15:00 EM1003791-114	Client sample ID: TP30_0.3-0.4 Client sampling date / time: 09-APR-2010 15:00 EM1003791-116	Client sample ID: QC02 Client sampling date / time: 07-APR-2010 15:00 EM1003791-119	Client sample ID: QC04 Client sampling date / time: 08-APR-2010 15:00 EM1003791-121
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: TP29_0.2-0.3	TP29_0.8-0.9	TP30_0.3-0.4	QC02	QC04
				Client sampling date / time: 08-APR-2010 15:00	08-APR-2010 15:00	09-APR-2010 15:00	07-APR-2010 15:00	08-APR-2010 15:00
				EM1003791-113	EM1003791-114	EM1003791-116	EM1003791-119	EM1003791-121
EP080/071: Total Petroleum Hydrocarbons - Continued								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**62.8**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**83.2**	----	**83.2**	**89.8**	**74.2**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**105**	----	**106**	**116**	**95.4**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**95.6**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**105**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**91.3**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**80.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**83.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**86.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**91.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**103**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**112**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**102**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**101**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**90.5**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: TB01	RB01	----	----	----
				Client sampling date / time: 09-APR-2010 15:00	09-APR-2010 15:00	----	----	----
				EM1003791-001	EM1003791-002	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	**0.0003**	----	----	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	----	**0.001**	----	----	----
Nickel	7440-02-0	0.001	mg/L	----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	----	**0.032**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**95.5**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**97.6**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**88.6**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	42.4	131
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	130
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	53	140
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80.0	120
Toluene-D8	2037-26-5	81.0	117
4-Bromofluorobenzene	460-00-4	74.0	121
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80.0	120
Toluene-D8	2037-26-5	81.0	117
4-Bromofluorobenzene	460-00-4	74.0	121
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	70	130

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80.0	120
Toluene-D8	2037-26-5	88.0	110
4-Bromofluorobenzene	460-00-4	86.0	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET21149/ 24329 / 1 - 2
Your ref :EM1003791
NATA Accreditation No: 14484

16 April 2010

Australian Laboratory Services Pty Ltd
4, Westal Road,
Springvale,
VIC 3171

Attn:Mr Steven Mcgrath
Fax No:03-95499601

Dear Steven,

Asbestos Identification
This report presents the results of two samples, forwarded by Australian Laboratory Services Pty Ltd on 15 April 2010, for analysis for asbestos.

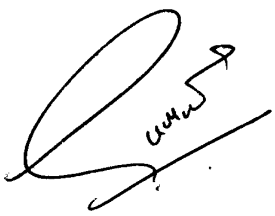
1.Introduction: Two samples forwarded were examined and analysed for the presence of asbestos.

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

3. Results : **Sample No. 1. ASET21149 / 24329 / 1. EM1003791 - 110.**
Approx dimensions 5.0 cm x 5.0 cm x 0.35 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster and brick.
No asbestos detected.

Sample No. 2. ASET21149 / 24329 / 2. EM1003791 - 113.
Approx dimensions 5.0 cm x 5.0 cm x 0.45 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster, sandstones and brick.
No asbestos detected.

Analysed and reported by,



Mahen De Silva . BSc. MSc. Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Signatory.
Approved Identifier

NATA
WORLD RECOGNISED
ACCREDITATION

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

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

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **EM1003791**	Page	: 1 of 21
Client	: **PARSONS BRINCKERHOFF AUST P/L**	Laboratory	: Environmental Division Melbourne
Contact	: MR EDDIE CRUICKSHANKS-BOYD	Contact	: Steven McGrath
Address	: GPO BOX 398 ADELAIDE SA, AUSTRALIA 5001	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: ECruickshanks@pb.com.au	E-mail	: steven.mcgrath@alsenviro.com
Telephone	: +61 08 8405 4300	Telephone	: +61-3-8549 9600
Facsimile	: +61 08 8405 4301	Facsimile	: +61-3-8549 9601
Project	: 2160919A	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: HILLCREST HOSPITAL ESA		
C-O-C number	: ----	Date Samples Received	: 13-APR-2010
Sampler	: HOB, ECB	Issue Date	: 21-APR-2010
Order number	: ----		
		No. of samples received	: 123
Quote number	: EN/008/09	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Senior Inorganic Instrument Chemist	Inorganics
Lana Nguyen	LCMS Chemist	Organics
Nancy Wang	Instrument Chemist	Organics
Terrance Hettipathirana	Team Leader - Metals	Inorganics
Xingbin Lin	Instrument Chemist	Organics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1311259)									
EM1003791-003	TP01_0.0-0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	11.3	11.7	3.4	0% - 50%
EM1003791-036	TP10_0.0-0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.0	12.8	6.6	0% - 50%
EA055: Moisture Content (QC Lot: 1311260)									
EM1003791-070	TP19_0.0-0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	13.4	12.8	4.8	0% - 50%
EA055: Moisture Content (QC Lot: 1312387)									
EM1003720-012	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.4	11.5	7.3	0% - 50%
EM1003791-083	TP22_0.0-0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.8	7.4	17.1	No Limit
EA055: Moisture Content (QC Lot: 1312388)									
EM1003791-111	TP28_1.4-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.1	22.0	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 1313137)									
EM1003738-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	<1.0	<1.0	0.0	No Limit
EM1003808-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.6	18.0	14.8	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1311679)									
EM1003791-003	TP01_0.0-0.1	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	90	90	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	24	24	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	13	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	5	4	32.8	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	14	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	30	28	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	286	285	0.5	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	30	28	6.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	13300	13200	0.4	0% - 20%
EM1003791-032	TP09_0.0-0.1	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	110	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	26	27	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	14	7.7	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	14	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005T: Total Metals by ICP-AES (QC Lot: 1311679) - continued									
EM1003791-032	TP09_0.0-0.1	EG005T: Lead	7439-92-1	5	mg/kg	32	30	4.8	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	225	237	5.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	28	28	0.0	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	14700	14600	0.8	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1311681)									
EM1003791-070	TP19_0.0-0.1	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	80	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	22	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	7	8	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	10	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	4	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	12	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	26	7.8	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	250	265	5.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	26	27	4.9	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	11600	12300	6.3	0% - 20%
EM1003791-110	TP28_0.2-0.3	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	160	190	17.9	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	21	22	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	6	6	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	11	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	13	11.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	66	81	20.0	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	150	162	7.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	62	65	5.6	0% - 50%
		EG005T: Iron	7439-89-6	50	mg/kg	11200	12200	8.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1311680)									
EM1003791-003	TP01_0.0-0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	101	No Limit
EM1003791-032	TP09_0.0-0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1311682)									
EM1003791-070	TP19_0.0-0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	93.7	No Limit
EM1003791-110	TP28_0.2-0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1314759)									
EM1003739-001	Anonymous	EG048: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1314759) - continued									
EM1003859-006	Anonymous	EG048: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1311265)									
EM1003791-026	TP07_0.0-0.1	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1312422)									
EM1003791-026	TP07_0.0-0.1	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1312426)									
EM1003791-083	TP22_0.0-0.1	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1312421)									
EM1003791-026	TP07_0.0-0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EM1003791-036	TP10_0.0-0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1312421) - continued									
EM1003791-036	TP10_0.0-0.1	EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1312425)									
EM1003791-083	TP22_0.0-0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EM1003791-110	TP28_0.2-0.3	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1312425) - continued									
EM1003791-110	TP28_0.2-0.3	EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1312421)									
EM1003791-026	TP07_0.0-0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EM1003791-036	TP10_0.0-0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1312421) - continued									
EM1003791-036	TP10_0.0-0.1	EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1310946)									
EM1003791-026	TP07_0.0-0.1	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Methylene chloride	75-09-2	0.5	mg/kg	<0.7	<0.7	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1310946) - continued									
EM1003791-026	TP07_0.0-0.1	EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1311690)									
EM1003676-047	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EM1003791-067	TP18_0.1-0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1311690)									
EM1003676-047	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1311690) - continued									
EM1003676-047	Anonymous	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM1003791-067	TP18_0.1-0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1310945)									
EM1003791-026	TP07_0.0-0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM1003791-085	TP22_0.2-0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1311689)									
EM1003676-047	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EM1003791-067	TP18_0.1-0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1310945)									
EM1003791-026	TP07_0.0-0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 1310945) - continued									
EM1003791-026	TP07_0.0-0.1	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM1003791-085	TP22_0.2-0.3	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 1315505)									
EM1003791-003	TP01_0.0-0.1	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1317191)									
EM1003963-005	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0008	0.0008	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.375	0.382	1.8	0% - 20%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.008	0.009	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.032	0.031	0.0	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.028	0.028	0.0	No Limit
EM1003979-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0001	0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.008	0.007	14.8	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.015	0.015	0.0	0% - 50%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 1317191) - continued									
EM1003979-002	Anonymous	EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.008	0.008	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1310843)									
EM1003770-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1311403)									
EM1003721-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM1003827-007	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1311403)									
EM1003721-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
EM1003827-007	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1311679)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.6 mg/kg	94.7	82.8	119
EG005T: Barium	7440-39-3	10	mg/kg	<10	139 mg/kg	96.1	89	119
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	6.2 mg/kg	88.6	80	120
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.8 mg/kg	106	85.4	117
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	97.0	87.6	116
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	25.4 mg/kg	83.6	80	120
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.1 mg/kg	99.7	85.5	116
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.9 mg/kg	99.8	85.4	115
EG005T: Manganese	7439-96-5	5	mg/kg	<5	137 mg/kg	83.5	80	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.1 mg/kg	95.3	86.6	113
EG005T: Silver	7440-22-4	2	mg/kg	<2	5.23 mg/kg	95.8	80.5	119
EG005T: Zinc	7440-66-6	5	mg/kg	<5	105 mg/kg	96.3	81.3	111
EG005T: Total Metals by ICP-AES (QCLot: 1311681)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.6 mg/kg	104	82.8	119
EG005T: Barium	7440-39-3	10	mg/kg	<10	139 mg/kg	107	89	119
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	6.2 mg/kg	110	80	120
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.8 mg/kg	97.1	85.4	117
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	102	87.6	116
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	25.4 mg/kg	88.7	80	120
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.1 mg/kg	92.9	85.5	116
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005T: Lead	7439-92-1	5	mg/kg	<5	54.9 mg/kg	101	85.4	115
EG005T: Manganese	7439-96-5	5	mg/kg	<5	137 mg/kg	83.5	80	120
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.1 mg/kg	94.5	86.6	113
EG005T: Silver	7440-22-4	2	mg/kg	<2	5.23 mg/kg	99.5	80.5	119
EG005T: Zinc	7440-66-6	5	mg/kg	<5	105 mg/kg	99.3	81.3	111
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1311680)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.47 mg/kg	82.7	71.9	119
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1311682)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.47 mg/kg	80.3	71.9	119
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1314759)								
EG048: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	82.9	80	120
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1311265)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1311265) - continued								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	98.6	86.3	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1312422)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.66 mg/kg	79.8	60.6	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1312426)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.66 mg/kg	74.1	60.6	123
EP068A: Organochlorine Pesticides (OC) (QCLot: 1312421)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	78.0	47.3	130
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	72.9	45.6	128
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	72.9	55.9	130
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	76.6	51.1	129
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	80.6	56.1	127
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	82.7	51.6	125
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	77.2	54.9	121
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	78.2	56.9	122
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	78.6	57.9	122
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	85.3	56.6	128
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	80.6	57.1	123
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	72.8	56	123
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	75.1	58.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	80.4	57.9	128
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	77.0	60.6	128
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	62.3	55.7	126
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	98.8	47.1	123
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	99.2	57.2	128
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	74.6	52.5	134
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	80.6	57.7	126
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	73.4	53.4	139
EP068A: Organochlorine Pesticides (OC) (QCLot: 1312425)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	89.3	47.3	130
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	84.9	45.6	128
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	92.1	55.9	130
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	90.9	51.1	129
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	87.5	56.1	127
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	89.9	51.6	125
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	84.3	54.9	121
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	86.6	56.9	122
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	88.0	57.9	122
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	88.6	56.6	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1312425) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	88.0	57.1	123
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	86.3	56	123
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	88.6	58.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	90.6	57.9	128
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	93.5	60.6	128
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	87.9	55.7	126
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	88.8	47.1	123
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	94.0	57.2	128
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	116	52.5	134
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	97.4	57.7	126
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	106	53.4	139
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1312421)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	89.0	34.9	138
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	# 16.8	27.4	135
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	73.8	10	172
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	# 137	54.1	136
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	75.2	52.5	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	79.9	56.6	124
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	79.8	52.1	134
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	108	56.3	134
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	62.2	55.6	125
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	77.4	57	127
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	77.3	49.3	133
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	75.7	50	128
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.25 mg/kg	124	53.4	133
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	88.1	57.4	126
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	58.6	44.6	131
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	73.4	57.9	125
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	71.4	56.3	130
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	63.3	55.4	126
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	95.7	44.6	148
EP074E: Halogenated Aliphatic Compounds (QCLot: 1310946)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	90.3	47	119
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	108	53	131
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	99.4	54	132
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	98.2	52	124
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	103	64	136
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	84.8	64	132
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	88.3	70	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 1310946) - continued								
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	90.9	35	133
EP074: Methylene chloride	75-09-2	0.5	mg/kg	<0.7	1 mg/kg	141	68	150
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	90.9	74	112
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	90.0	75	115
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	88.5	74	118
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	81.5	65	109
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	83.7	72	114
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	77.9	52	106
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	93.9	72	120
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	87.7	67	123
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	93.7	70	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	88.5	75	123
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	99.0	80	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	94.3	71	137
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	79.8	70	130
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	54.3	46	114
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	83.1	29	155
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.2	72	126
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	102	70	132
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	60.6	25	107
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	92.8	33	117
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	84.7	51	135
EP075(SIM)A: Phenolic Compounds (QCLot: 1311690)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	10 mg/kg	80.8	73	123
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	10 mg/kg	82.6	74	122
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	10 mg/kg	82.3	70	122
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	20 mg/kg	81.8	74	120
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	10 mg/kg	80.2	68	124
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	10 mg/kg	84.6	72	124
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	10 mg/kg	85.8	71	119
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	10 mg/kg	80.5	74	118
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	10 mg/kg	81.5	71	119
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	10 mg/kg	81.9	68	120
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	10 mg/kg	81.3	68	122
EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	10 mg/kg	53.0	18.2	134
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1311690)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	10 mg/kg	87.2	77	117
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	10 mg/kg	82.7	75	121
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	10 mg/kg	82.0	79	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1311690) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	10 mg/kg	82.3	73	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	10 mg/kg	79.7	77	115
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	10 mg/kg	79.1	79	117
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	10 mg/kg	80.9	79	115
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	10 mg/kg	79.6	79	115
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	10 mg/kg	76.3	76	116
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	10 mg/kg	80.5	78	116
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	10 mg/kg	79.1	70	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	10 mg/kg	80.3	69	121
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	10 mg/kg	80.0	72	118
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	10 mg/kg	# 68.0	71	119
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	10 mg/kg	# 67.8	71	119
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	10 mg/kg	69.6	69	119
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1310945)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	32 mg/kg	105	81	123
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1311689)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	606 mg/kg	69.3	69	123
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	1460 mg/kg	93.8	69	127
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	342 mg/kg	102	70	130
EP080: BTEX (QCLot: 1310945)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	97.6	80	122
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	107	80	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	103	79	121
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	105	79	121
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	107	79	121
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 1315505)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	73.8	54.4	136
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	62.8	45.5	144
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	75.4	51.7	146
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	71.3	60	140
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	69.7	56.8	143
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	77.0	50	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	85.6	68.5	139
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	83.0	50.8	145
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	75.5	40.8	135
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	81.4	57.4	142
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	59.1	38.9	147
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	59.1	48.7	138

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 1315505) - continued								
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	66.6	59.4	149
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	63.2	53.2	145

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1317191)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.9	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	101	90	114
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	100	86	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	105	88	116
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	92	114
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	101	86	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.6	81	119
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1310843)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.0100 mg/L	84.0	76	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1311403)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	320 µg/L	99.5	71	131
EP080: BTEX (QCLot: 1311403)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	94.1	71	131
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	98.2	70	130
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	94.4	70	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	93.7	69	129
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	91.8	70	130

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1311679)							
EM1003791-006	TP02_0.0-0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	84.1	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	112	70	130
		EG005T: Beryllium	7440-41-7	50 mg/kg	85.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	93.8	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	90.2	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	72.4	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	# Not Determined	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.4	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	81.3	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1311681)							
EM1003791-074	TP20_0.0-0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	84.3	70	130
		EG005T: Barium	7440-39-3	50 mg/kg	75.0	70	130
		EG005T: Beryllium	7440-41-7	50 mg/kg	94.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	78.1	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	74.8	70	130
		EG005T: Copper	7440-50-8	50 mg/kg	97.9	70	130
		EG005T: Lead	7439-92-1	50 mg/kg	93.7	70	130
		EG005T: Manganese	7439-96-5	50 mg/kg	71.1	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	71.2	70	130
		EG005T: Zinc	7440-66-6	50 mg/kg	88.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1311680)							
EM1003791-006	TP02_0.0-0.1	EG035T: Mercury	7439-97-6	5.0 mg/kg	75.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1311682)							
EM1003791-074	TP20_0.0-0.1	EG035T: Mercury	7439-97-6	5.0 mg/kg	70.4	70	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1314759)							
EM1003791-026	TP07_0.0-0.1	EG048: Hexavalent Chromium	18540-29-9	40 mg/kg	# 68.4	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1311265)							
EM1003791-066	TP18_0.0-0.1	EK026G: Total Cyanide	57-12-5	20 mg/kg	91.7	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1312422)							
EM1003791-066	TP18_0.0-0.1	EP066: Total Polychlorinated biphenyls	----	0.66 mg/kg	75.0	58	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1312426)							
EM1003791-097	TP25_0.0-0.1	EP066: Total Polychlorinated biphenyls	----	0.66 mg/kg	74.5	58	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP068A: Organochlorine Pesticides (OC) (QCLot: 1312421)							
EM1003791-006	TP02_0.0-0.1	EP068: gamma-BHC	58-89-9	0.25 mg/kg	95.8	45	133
		EP068: Heptachlor	76-44-8	0.25 mg/kg	110	40	128
		EP068: Aldrin	309-00-2	0.25 mg/kg	108	45	126
		EP068: Dieldrin	60-57-1	0.25 mg/kg	102	50	126
		EP068: Endrin	72-20-8	0.25 mg/kg	110	46	134
		EP068: 4.4`-DDT	50-29-3	0.25 mg/kg	75.8	35	135
EP068A: Organochlorine Pesticides (OC) (QCLot: 1312425)							
EM1003791-074	TP20_0.0-0.1	EP068: gamma-BHC	58-89-9	0.25 mg/kg	107	45	133
		EP068: Heptachlor	76-44-8	0.25 mg/kg	85.9	40	128
		EP068: Aldrin	309-00-2	0.25 mg/kg	102	45	126
		EP068: Dieldrin	60-57-1	0.25 mg/kg	102	50	126
		EP068: Endrin	72-20-8	0.25 mg/kg	99.4	46	134
		EP068: 4.4`-DDT	50-29-3	0.25 mg/kg	62.5	35	135
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1312421)							
EM1003791-006	TP02_0.0-0.1	EP068: Diazinon	333-41-5	0.25 mg/kg	98.3	51	139
		EP068: Chlorpyrifos-methyl	5598-13-0	0.25 mg/kg	103	48	122
		EP068: Pirimphos-ethyl	23505-41-1	0.25 mg/kg	96.1	51	133
		EP068: Bromophos-ethyl	4824-78-6	0.29 mg/kg	90.2	54	130
		EP068: Prothiofos	34643-46-4	0.25 mg/kg	98.5	49	139
EP074E: Halogenated Aliphatic Compounds (QCLot: 1310946)							
EM1003791-066	TP18_0.0-0.1	EP074: 1.1-Dichloroethene	75-35-4	2 mg/kg	75.7	70	130
		EP074: Trichloroethene	79-01-6	2 mg/kg	80.7	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1311690)							
EM1003676-049	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	90.3	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	100	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	82.9	70	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	88.5	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	# 58.7	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1311690)							
EM1003676-049	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	91.8	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	91.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1310945)							
EM1003791-066	TP18_0.0-0.1	EP080: C6 - C9 Fraction	----	28 mg/kg	71.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1311689)							
EM1003676-048	Anonymous	EP071: C10 - C14 Fraction	----	606 mg/kg	68.6	60	130
		EP071: C15 - C28 Fraction	----	1460 mg/kg	93.1	60	130
		EP071: C29 - C36 Fraction	----	342 mg/kg	98.6	60	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1310945)							
EM1003791-066	TP18_0.0-0.1	EP080: Benzene	71-43-2	2 mg/kg	78.4	70	130
		EP080: Toluene	108-88-3	2 mg/kg	82.7	70	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 1315505)							
EM1003791-040	TP11_0.0-0.1	EP202: Mecoprop	93-65-2	0.1 mg/kg	72.4	60	130
		EP202: MCPA	94-74-6	0.1 mg/kg	70.6	60	130
		EP202: 2.4-D	94-75-7	0.1 mg/kg	85.1	60	130
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	67.3	60	130
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	75.1	60	130
		EP202: Picloram	1918-02-1	0.1 mg/kg	71.4	60	130
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	70.3	60	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1317191)							
EM1003963-005	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	95.9	70	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	96.7	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	92.7	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	98.8	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	87.3	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.6	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	96.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1310843)							
EM1003782-002	Anonymous	EG035T: Mercury	7439-97-6	0.0100 mg/L	77.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1311403)							
EM1003812-001	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	91.4	70	130
EP080: BTEX (QCLot: 1311403)							
EM1003812-001	Anonymous	EP080: Benzene	71-43-2	20 µg/L	85.3	70	130
		EP080: Toluene	108-88-3	20 µg/L	98.4	70	130

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **EM1003791**	Page	: 1 of 12
Client	: PARSONS BRINCKERHOFF AUST P/L	Laboratory	: Environmental Division Melbourne
Contact	: MR EDDIE CRUICKSHANKS-BOYD	Contact	: Steven McGrath
Address	: GPO BOX 398 ADELAIDE SA, AUSTRALIA 5001	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: ECruickshanks@pb.com.au	E-mail	: steven.mcgrath@alsenviro.com
Telephone	: +61 08 8405 4300	Telephone	: +61-3-8549 9600
Facsimile	: +61 08 8405 4301	Facsimile	: +61-3-8549 9601
Project	: 2160919A	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: HILLCREST HOSPITAL ESA		
C-O-C number	: ----	Date Samples Received	: 13-APR-2010
Sampler	: HOB, ECB	Issue Date	: 21-APR-2010
Order number	: ----		
		No. of samples received	: 123
Quote number	: EN/008/09	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non -volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP02_0.0-0.1,	**07-APR-2010**	**----**	----	----	**14-APR-2010**	14-APR-2010	✓
TP03_0.0-0.1,	TP04_0.0-0.1,							
TP05_0.0-0.1,	TP06_0.0-0.1,							
TP07_0.0-0.1,	TP07_0.1-0.2,							
TP08_0.0-0.1,	TP09_0.0-0.1,							
TP10_0.0-0.1,	TP11_0.0-0.1,							
TP12_0.0-0.1,	TP13_0.0-0.1,							
TP14_0.0-0.1,	TP15_0.0-0.1,							
TP16_0.0-0.1,	TP17_0.0-0.1,							
TP18_0.0-0.1,	TP18_0.1-0.2,							
TP19_0.0-0.1,	TP20_0.0-0.1,							
TP21_0.0-0.1,	QC02							
Soil Glass Jar - Unpreserved								
TP22_0.0-0.1,	TP22_0.2-0.3,	**08-APR-2010**	**----**	----	----	**15-APR-2010**	15-APR-2010	✓
TP23_0.25-0.35,	TP24_0.1-0.2,							
TP25_0.0-0.1,	TP25_0.4-0.5,							
TP26_0.27-0.37,	TP27_0.0-0.05,							
TP28_0.0-0.1,	TP28_0.2-0.3,							
TP28_1.4-1.5,	TP29_0.0-0.1,							
TP29_0.2-0.3,	TP29_0.8-0.9,							
QC04								
Soil Glass Jar - Unpreserved								
TP30_0.3-0.4		**09-APR-2010**	**----**	----	----	**15-APR-2010**	16-APR-2010	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
TP01_0.0-0.1, TP02_0.0-0.1, TP03_0.0-0.1, TP04_0.0-0.1, TP05_0.0-0.1, TP06_0.0-0.1, TP07_0.0-0.1, TP07_0.1-0.2, TP08_0.0-0.1, TP09_0.0-0.1, TP10_0.0-0.1, TP11_0.0-0.1, TP12_0.0-0.1, TP13_0.0-0.1, TP14_0.0-0.1, TP15_0.0-0.1, TP16_0.0-0.1, TP17_0.0-0.1, TP18_0.0-0.1, TP18_0.1-0.2, TP19_0.0-0.1, TP20_0.0-0.1, TP21_0.0-0.1, QC02	**07-APR-2010**	**15-APR-2010**	05-MAY-2010	✓	**19-APR-2010**	04-OCT-2010	✓
Soil Glass Jar - Unpreserved							
TP22_0.0-0.1, TP23_0.25-0.35, TP24_0.1-0.2, TP25_0.4-0.5, TP26_0.27-0.37, TP27_0.0-0.05, TP28_0.2-0.3, TP28_1.4-1.5, TP29_0.2-0.3, TP29_0.8-0.9, QC04	**08-APR-2010**	**15-APR-2010**	06-MAY-2010	✓	**19-APR-2010**	05-OCT-2010	✓
Soil Glass Jar - Unpreserved							
TP30_0.3-0.4	**09-APR-2010**	**15-APR-2010**	07-MAY-2010	✓	**19-APR-2010**	06-OCT-2010	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP02_0.0-0.1,	**07-APR-2010**	**15-APR-2010**	05-MAY-2010	✓	**16-APR-2010**	05-MAY-2010	✓
TP03_0.0-0.1,	TP04_0.0-0.1,							
TP05_0.0-0.1,	TP06_0.0-0.1,							
TP07_0.0-0.1,	TP07_0.1-0.2,							
TP08_0.0-0.1,	TP09_0.0-0.1,							
TP10_0.0-0.1,	TP11_0.0-0.1,							
TP12_0.0-0.1,	TP13_0.0-0.1,							
TP14_0.0-0.1,	TP15_0.0-0.1,							
TP16_0.0-0.1,	TP17_0.0-0.1,							
TP18_0.0-0.1,	TP18_0.1-0.2,							
TP19_0.0-0.1,	TP20_0.0-0.1,							
TP21_0.0-0.1,	QC02							
Soil Glass Jar - Unpreserved								
TP22_0.0-0.1,	TP23_0.25-0.35,	**08-APR-2010**	**15-APR-2010**	06-MAY-2010	✓	**16-APR-2010**	06-MAY-2010	✓
TP24_0.1-0.2,	TP25_0.4-0.5,							
TP26_0.27-0.37,	TP27_0.0-0.05,							
TP28_0.2-0.3,	TP28_1.4-1.5,							
TP29_0.2-0.3,	TP29_0.8-0.9,							
QC04								
Soil Glass Jar - Unpreserved								
TP30_0.3-0.4		**09-APR-2010**	**15-APR-2010**	07-MAY-2010	✓	**16-APR-2010**	07-MAY-2010	✓
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved								
TP07_0.0-0.1,	TP18_0.0-0.1	**07-APR-2010**	**19-APR-2010**	05-MAY-2010	✓	**19-APR-2010**	26-APR-2010	✓
Soil Glass Jar - Unpreserved								
TP28_0.2-0.3,	TP29_0.2-0.3	**08-APR-2010**	**19-APR-2010**	06-MAY-2010	✓	**19-APR-2010**	26-APR-2010	✓
EK026G: Total Cyanide By Discrete Analyser								
Soil Glass Jar - Unpreserved								
TP07_0.0-0.1,	TP18_0.0-0.1	**07-APR-2010**	**14-APR-2010**	14-APR-2010	✓	**20-APR-2010**	28-APR-2010	✓
Soil Glass Jar - Unpreserved								
TP28_0.2-0.3,	TP29_0.2-0.3	**08-APR-2010**	**14-APR-2010**	15-APR-2010	✓	**20-APR-2010**	28-APR-2010	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved								
TP07_0.0-0.1,	TP18_0.0-0.1	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**20-APR-2010**	25-MAY-2010	✓
Soil Glass Jar - Unpreserved								
TP22_0.0-0.1,	TP25_0.0-0.1,	**08-APR-2010**	**15-APR-2010**	22-APR-2010	✓	**19-APR-2010**	25-MAY-2010	✓
TP28_0.2-0.3,	TP29_0.2-0.3							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved							
TP19_0.0-0.1, TP20_0.0-0.1, TP21_0.0-0.1, QC02	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**19-APR-2010**	25-MAY-2010	✓
Soil Glass Jar - Unpreserved							
TP01_0.0-0.1, TP02_0.0-0.1, TP03_0.0-0.1, TP04_0.0-0.1, TP05_0.0-0.1, TP06_0.0-0.1, TP07_0.0-0.1, TP07_0.1-0.2, TP08_0.0-0.1, TP09_0.0-0.1, TP10_0.0-0.1, TP11_0.0-0.1, TP12_0.0-0.1, TP13_0.0-0.1, TP14_0.0-0.1, TP15_0.0-0.1, TP16_0.0-0.1, TP17_0.0-0.1, TP18_0.0-0.1, TP18_0.1-0.2	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**20-APR-2010**	25-MAY-2010	✓
Soil Glass Jar - Unpreserved							
TP22_0.0-0.1, TP23_0.25-0.35, TP24_0.1-0.2, TP25_0.4-0.5, TP26_0.27-0.37, TP27_0.0-0.05, TP28_0.0-0.1, TP28_0.2-0.3, TP29_0.0-0.1, TP29_0.2-0.3, QC04	**08-APR-2010**	**15-APR-2010**	22-APR-2010	✓	**19-APR-2010**	25-MAY-2010	✓
Soil Glass Jar - Unpreserved							
TP30_0.3-0.4	**09-APR-2010**	**15-APR-2010**	23-APR-2010	✓	**19-APR-2010**	25-MAY-2010	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved							
TP01_0.0-0.1, TP11_0.0-0.1	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**20-APR-2010**	25-MAY-2010	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved							
TP07_0.0-0.1, TP18_0.0-0.1	**07-APR-2010**	**14-APR-2010**	21-APR-2010	✓	**14-APR-2010**	21-APR-2010	✓
Soil Glass Jar - Unpreserved							
TP28_0.2-0.3, TP29_0.2-0.3	**08-APR-2010**	**14-APR-2010**	22-APR-2010	✓	**14-APR-2010**	22-APR-2010	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
TP07_0.0-0.1, TP18_0.0-0.1	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓
Soil Glass Jar - Unpreserved							
TP22_0.0-0.1, TP22_0.2-0.3, TP25_0.0-0.1, TP28_0.2-0.3, TP29_0.2-0.3	**08-APR-2010**	**15-APR-2010**	22-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP05_0.0-0.1,	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓
TP07_0.0-0.1,	TP09_0.0-0.1,							
TP12_0.0-0.1,	TP14_0.0-0.1,							
TP18_0.0-0.1,	TP18_0.1-0.2,							
TP21_0.0-0.1								
Soil Glass Jar - Unpreserved								
TP22_0.2-0.3,	TP23_0.25-0.35,	**08-APR-2010**	**15-APR-2010**	22-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓
TP24_0.1-0.2,	TP25_0.0-0.1,							
TP28_0.2-0.3,	TP29_0.2-0.3							
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP05_0.0-0.1,	**07-APR-2010**	**14-APR-2010**	21-APR-2010	✓	**14-APR-2010**	21-APR-2010	✓
TP07_0.0-0.1,	TP09_0.0-0.1,							
TP12_0.0-0.1,	TP14_0.0-0.1,							
TP18_0.0-0.1,	TP18_0.1-0.2,							
TP21_0.0-0.1								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP05_0.0-0.1,	**07-APR-2010**	**15-APR-2010**	21-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓
TP07_0.0-0.1,	TP09_0.0-0.1,							
TP12_0.0-0.1,	TP14_0.0-0.1,							
TP18_0.0-0.1,	TP18_0.1-0.2,							
TP21_0.0-0.1								
Soil Glass Jar - Unpreserved								
TP22_0.2-0.3,	TP23_0.25-0.35,	**08-APR-2010**	**14-APR-2010**	22-APR-2010	✓	**14-APR-2010**	22-APR-2010	✓
TP24_0.1-0.2,	TP25_0.0-0.1,							
TP28_0.2-0.3,	TP29_0.2-0.3							
Soil Glass Jar - Unpreserved								
TP22_0.2-0.3,	TP23_0.25-0.35,	**08-APR-2010**	**15-APR-2010**	22-APR-2010	✓	**16-APR-2010**	25-MAY-2010	✓
TP24_0.1-0.2,	TP25_0.0-0.1,							
TP28_0.2-0.3,	TP29_0.2-0.3							
EP080: BTEX								
Soil Glass Jar - Unpreserved								
TP07_0.0-0.1,	TP18_0.0-0.1	**07-APR-2010**	**14-APR-2010**	21-APR-2010	✓	**14-APR-2010**	21-APR-2010	✓
Soil Glass Jar - Unpreserved								
TP28_0.2-0.3,	TP29_0.2-0.3	**08-APR-2010**	**14-APR-2010**	22-APR-2010	✓	**14-APR-2010**	22-APR-2010	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
Soil Glass Jar - Unpreserved								
TP01_0.0-0.1,	TP11_0.0-0.1	**07-APR-2010**	**19-APR-2010**	21-APR-2010	✓	**19-APR-2010**	29-MAY-2010	✓

Matrix: **WATER**

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

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
RB01	**09-APR-2010**	**19-APR-2010**	06-OCT-2010	✓	**19-APR-2010**	06-OCT-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
RB01	**09-APR-2010**	**----**	----	----	**14-APR-2010**	07-MAY-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial- NaHSO4 or H2SO4							
TB01	**09-APR-2010**	**---**	---	----	**15-APR-2010**	23-APR-2010	✓
EP080: BTEX							
Amber VOC Vial- NaHSO4 or H2SO4							
TB01	**09-APR-2010**	**---**	---	----	**15-APR-2010**	23-APR-2010	✓

Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	8	69	**11.6**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	4	38	**10.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	2	**50.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	8	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium by Alkaline Digestion	EG048	2	20	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	37	**10.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	18	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	2	38	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	8	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium by Alkaline Digestion	EG048	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	2	38	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	2	**50.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	8	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Hexavalent Chromium by Alkaline Digestion	EG048	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	**5.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Volatile Organic Compounds	EP074	1	4	**25.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Pesticides by GCMS	EP068	2	38	**5.3**	**5.0**	✓	ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	2	**50.0**	**5.0**	✓	ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	8	**25.0**	**5.0**	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	4	**25.0**	**5.0**	✓	ALS QCS3 requirement
Total Hexavalent Chromium by Alkaline Digestion	EG048	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	**5.4**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	**5.4**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	18	**5.6**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	4	**25.0**	**5.0**	✓	ALS QCS3 requirement

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Total Mercury by FIMS	EG035T	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	4	36	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	36	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	36	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	36	**5.6**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Total Hexavalent Chromium by Alkaline Digestion	EG048	SOIL	USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by UV-VIS spectrophotometer following pH adjustment and colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)

Analytical Methods	Method	Matrix	Method Descriptions
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In-House, LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	USEPA SW846, Method 3060A.
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Extraction for Phenoxy Acid Herbicides in Soils.	* EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP068B: Organophosphorus Pesticides (OP)	1521485-001	----	**Demeton-S-methyl**	919-86-8	16.8 %	27.4-135%	**Recovery less than lower control limit**
EP068B: Organophosphorus Pesticides (OP)	1521485-001	----	**Dimethoate**	60-51-5	137 %	54.1-136%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1520424-005	----	**Indeno(1.2.3.cd)pyrene**	193-39-5	68.0 %	71-119%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1520424-005	----	**Dibenz(a.h)anthracene**	53-70-3	67.8 %	71-119%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EG005T: Total Metals by ICP-AES	EM1003791-006	TP02_0.0-0.1	**Manganese**	7439-96-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EG048: Hexavalent Chromium (Alkaline Digest)	EM1003791-026	TP07_0.0-0.1	**Hexavalent Chromium**	18540-29-9	68.4 %	70-130%	**Recovery less than lower data quality objective**
EP075(SIM)A: Phenolic Compounds	EM1003676-049	Anonymous	**Pentachlorophenol**	87-86-5	58.7 %	70-130%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

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

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

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

PARSONS BRINCKERHOFF

CHAIN OF COUNTY

ADDRESS:	Parson Brinckerhoff, Level 16, 1 King William St Adelaide, SA 5001	LABORATORY:	ALS
		ADDRESS	4 Westall Road Springvale VIC 3121
PHONE NO:	08 84054300	PHONE NO:	03 8549 9600
FAX NO:	08 8405 4301	FAX NO:	03 8549 9601
PB PROJECT NO: 2160918A		PB Project Manager: Eddie CB	
SITE NAME: Hillcrest Hospital ESA		SAMPLERS:	HOB, ECB
Agreement No:			

Format Required: csv

email address: auadllabresults@pb.com.au

TURNAROUND DETAILS (mark box)

- [X] Standard - 5 days
- [ ] Non standard (see comments)

RELINQUISHED:

DATE 12/04/2010 TIME: 4.00pm

RECEIVED BY:

DATE TIME:

RELINQUISHED:

DATE TIME: 4.00pm

RECEIVED BY: RAMU

DATE 13/4 TIME: 9.15

Custody Seal? Y N NA

Samples Cold? Y N NA

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8.5=10.5

COMMENTS: [redacted]

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Soil Jar	40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 full (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
1	TB01	TB01	9/4/10	WATER													x						x					
2	RB01	RB01	9/4/10	WATER														x										
3	TP01	TP01_0.0-0.1	7/4/10	SOIL	x											x		x	x	x	x	x						
4		TP01_0.15-0.25	7/4/10	SOIL	x																							x
5		TP01_0.9-1.0	7/4/10	SOIL	x																							x
6	TP02	TP02_0.0-0.1	7/4/10	SOIL	x													x				x						
7		TP02_0.1-0.2	7/4/10	SOIL	x																							x
8		TP02_0.3-0.4	7/4/10	SOIL	x																							x
9		TP02_0.85-0.95	7/4/10	SOIL	x																							x
10	TP03	TP03_0.0-0.1	7/4/10	SOIL	x													x				x						
11		TP03_0.1-0.2	7/4/10	SOIL	x																							x
12		TP03_0.25-0.35	7/4/10	SOIL	x																							x
13		TP03_0.9-1.0	7/4/10	SOIL	x																							x
14	TP04	TP04_0.0-0.1	7/4/10	SOIL	x													x				x						
15		TP04_0.2-0.3	7/4/10	SOIL	x																							x
16		TP04_0.3-0.4	7/4/10	SOIL	x																							x
17		TP04_0.9-1.0	7/4/10	SOIL	x																							x
18	TP05	TP05_0.0-0.1	7/4/10	SOIL	x											x		x			x	x						
19		TP05_0.15-0.25	7/4/10	SOIL	x																							x
20		TP05_0.7-0.8	7/4/10	SOIL	x																							x
21		TP05_0.9-1.0	7/4/10	SOIL	x																							x

Environmental Division
Melbourne
Work Order DW
EM1003791

Telephone : +61-3-8549 9600

PARSONS BRINCKERHOFF

CHAIN OF COUSTODY

ADDRESS:	Parson Brinckerhoff Level 16 1 King William St, Adelaide SA 5001	LABORATORY:	ALS	Format Required:	csv
		ADDRESS:	4 Westall Road Springvale VIC 3121	email address:	auadlabresults@pb.com.au
				TURNAROUND DETAILS (mark box)	[X] Standard - 5 days [ ] Non standard (see comments)
PHONE NO:	08 84054300	PHONE NO:	03 8549 9600		
FAX NO:	08 8405 4301	FAX NO:	03 8549 9601		
PB PROJECT NO: 2160819A		PB Project Manager: Eddie CB			
SITE NAME: Hillcrest Hospital ESA		SAMPLERS:	HOB, ECB		
Agreement No:					
COMMENTS:	[redacted]				

RELINQUISHED:			
DATE	12/04/2010	TIME: 4.00pm	
RECEIVED BY:			
DATE		TIME:	
RELINQUISHED:			
DATE		TIME: 4.00pm	
RECEIVED BY:			
DATE		TIME:	
Custody Seal ?	Y N NA		
Samples Cool ?	Y N NA		

Page 1 of 1

[signature] 13/4, 9.15

~~12-14p~~ 8.5 – 10.5

as per phone call with Eddie Ow 13/4/10

CONTAINER TYPE & PRESERVATIVE (Solid / Liquid) — ANALYSIS REQUIRED - mark box for each individual analyte type required

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Soil Jar	40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 full (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN) Comprehensive	Asbestos	Phenols	PCBs	HOLD
46	TP13	TP13_0.0-0.1	7/4/10	SOIL	X													X				X						
47		TP13_0.1-0.15	7/4/10	SOIL	X																							X
48		TP13_0.2-0.3	7/4/10	SOIL	X																							X
49		TP13_0.9-1.0	7/4/10	SOIL	X																							X
50	TP14	TP14_0.0-0.1	7/4/10	SOIL	X											X		X			X	X						
51		TP14_0.15-0.25	7/4/10	SOIL	X																							X
52		TP14_0.4-0.5	7/4/10	SOIL	X																							X
53		TP14_0.9-1.0	7/4/10	SOIL	X																							X
54	TP15	TP15_0.0-0.1	7/4/10	SOIL	X													X				X						
55		TP15_0.2-0.3	7/4/10	SOIL	X																							X
56		TP15_0.4-0.5	7/4/10	SOIL	X																							X
57		TP15_0.9-1.0	7/4/10	SOIL	X																							X
58	TP16	TP16_0.0-0.1	7/4/10	SOIL	X													X				X						
59		TP16_0.15-0.25	7/4/10	SOIL	X																							X
60		TP16_0.25-0.35	7/4/10	SOIL	X																							X
61		TP16_0.9-1.0	7/4/10	SOIL	X																							X
62	TP17	TP17_0.0-0.1	7/4/10	SOIL	X													X				X						
63		TP17_0.1-0.2	7/4/10	SOIL	X																							X
64	0.35–0.45	TP17_0.45-0.55	7/4/10	SOIL	X																							X
65		TP17_0.9-1.0	7/4/10	SOIL	X																							X
66	TP18	TP18_0.0-0.1	7/4/10	SOIL	X																			X				
67		TP18_0.1-0.2	7/4/10	SOIL	X											X		X			X	X						
68		TP18_0.6-0.7	7/4/10	SOIL	X																							X
69		TP18_0.9-1.0	7/4/10	SOIL	X																							X
70	TP19	TP19_0.0-0.1	7/4/10	SOIL	X													X				X						
71		TP19_0.25-0.35	7/4/10	SOIL	X																							X
72		TP19_0.45-0.55	7/4/10	SOIL	X																							X
73		TP19_0.9-1.0	7/4/10	SOIL	X																							X

CHAIN OF CUSTODY

PARSONS BRINCKERHOFF

ADDRESS:	Parson Brinckerhoff Level 16 1 King William St, Adelaide SA 5001	LABORATORY:	ALS ADDRESS: 4 Westall Road Springvale VIC 3171
PHONE NO:	08 84054300	PHONE NO:	03 8549 9600
FAX NO:	08 8405 4301	FAX NO:	03 8549 9601
PB PROJECT NO: 2160619A		PB Project Manager: Eddie CB	
SITE NAME: Hillcrest Hospital ESA		SAMPLERS:	HOB, ECB
Agreement No:			
COMMENTS:	[redacted]		

Format Required: csv
email address: auqllabresults@pb.com.au
TURNAROUND DETAILS (mark box)
X Standard - 5 days
Non standard (see comments)

RELINQUISHED:
DATE: 12/04/2010 TIME: 4.00pm
RECEIVED BY:
DATE: TIME:
RELINQUISHED:
DATE: TIME: 4.00pm
RECEIVED BY:
DATE: TIME:
Custody Seal? Y N NA
Samples Cold ? Y N NA

Phone 13/4, 9.05
8.5 – 10.5

CONTAINER TYPE & PRESERVATIVE

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Soil Jar	Liquid: 40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 full (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
97	TP25	TP25_0.0-0.1	8/4/10	SOIL	X											X					X					X	X	
98		TP25_0.4-0.5	8/4/10	SOIL	X													X				X						
99		TP25_1.0-1.1	8/4/10	SOIL	X																							X
100		TP25_1.4-1.5	8/4/10	SOIL	X																							X
101	TP26	TP26_0.07-0.17	8/4/10	SOIL	X																							X
102		TP26_0.27-0.37	8/4/10	SOIL	X													X				X						
103		TP26_0.6-0.7	8/4/10	SOIL	X																							X
104		TP26_0.9-1.0	8/4/10	SOIL	X																							X
105	TP27	TP27_0.0-0.05	8/4/10	SOIL	X													X				X						
106		TP27_0.1-0.2	8/4/10	SOIL	X																							X
107		TP27_0.5-0.6	8/4/10	SOIL	X																							X
108		TP27_0.9-1.0	8/4/10	SOIL	X																							X
109	TP28	TP28_0.0-0.1	8/4/10	SOIL	X																	X						
110		TP28_0.2-0.3	8/4/10	SOIL	X																			X	X			
111		TP28_1.4-1.5	8/4/10	SOIL	X													X										
112	TP29	TP29_0.0-0.1	8/4/10	SOIL	X																	X						
113		TP29_0.2-0.3	8/4/10	SOIL	X																			X	X			
114		TP29_0.8-0.9	8/4/10	SOIL	X													X										
115	TP30	TP30_0.0-0.1	9/4/10	SOIL	X																							X
116		TP30_0.3-0.4	9/4/10	SOIL	X													X				X						
117		TP30_0.6-0.7	9/4/10	SOIL	X																							X
118		TP30_0.9-1.0	9/4/10	SOIL	X																							X
	[redacted]																											
119	QC02	QC02	7/4/10	SOIL	X													X				X						
120	QC03	QC03	7/4/10	SOIL	X																							X
121	QC04	QC04	8/4/10	SOIL	X													X				X						
122	QC05	QC05	8/4/10	SOIL	X																							X
TOTAL					0	0	0	0	0	0	0	0	0	0	0	12	1	34	2	2	12	33	1	4	2	3	2	62

ANALYSIS REQUIRED - mark box for each individual analyte type required

Extra Sample 123 = TP08-0.4-1.0 7/4

CHAIN OF CUSTODY

Page 1 of 1

ADDRESS:	Parsons Brinckerhoff Level 16 1 King William St, Adelaide SA 5001	LABORATORY:	ALS
		ADDRESS:	4 Westall Road Springvale VIC 3171
PHONE NO:	08 8464 4300	PHONE NO:	03 8549 9600
FAX NO:	08 8405 4350	FAX NO:	03 8549 9601
PB PROJECT NO: 2168919A		PB Project Manager: Eddie CB	
SITE NAME: Hillcrest Hospital ESA		SAMPLERS:	HOB, ECB
Agreement No:			
COMMENTS:	[redacted]		

Format Required: csv
email address: quadlabresults@pb.com.au
TURNAROUND DETAILS (mark box)
[X] Standard - 5 days
[ ] Non standard (see comments)

RELINQUISHED:
DATE: 12/04/2010 TIME: 4.00pm
RECEIVED BY:
DATE: TIME:
RELINQUISHED:
DATE: TIME: 4.00pm
RECEIVED BY: RANU
DATE: 13/4 TIME: 9.05
Custody Seal? Y N NA
Samples Cold? Y N NA

CONTAINER TYPE & PRESERVATIVE

ANALYSIS REQUIRED - mark box for each individual analyte type required

	LAB ID	SAMPLE ID	DATE d/m/yy	MATRIX	Solid: Soil Jar	Liquid: 40ml VOA Vial(G) H2SO4 Maroon	Liquid: 500ml (G) H2SO4 Maroon	Liquid: 100ml HNO3 Red	Liquid: 100ml (P) Nat. Green	Liquid: 500ml (G) Nat. Yellow	Liquid: 100ml (P) HCL	Liquid: 40ml VOA Vial(G) 1/2 full (methanol)	Liquid: 250ml (G) H2SO4 Maroon	Liquid: Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
1	TB01	TB01	9/4/10	WATER																							
2	RB01	RB01	9/4/10	WATER																							
3	TP01	TP01_0.0-0.1	7/4/10	SOIL	X											X		X	X	X	X	X					
4		TP01_0.15-0.25	7/4/10	SOIL	X																						X
5		TP01_0.9-1.0	7/4/10	SOIL	X																						X
6	TP02	TP02_0.0-0.1	7/4/10	SOIL	X													X				X					
7		TP02_0.1-0.2	7/4/10	SOIL	X																						X
8		TP02_0.3-0.4	7/4/10	SOIL	X																						X
9		TP02_0.85-0.95	7/4/10	SOIL	X																						X
10	TP03	TP03_0.0-0.1	7/4/10	SOIL	X													X				X					
11		TP03_0.1-0.2	7/4/10	SOIL	X																						X
12		TP03_0.25-0.35	7/4/10	SOIL	X																						X
13		TP03_0.9-1.0	7/4/10	SOIL	X																						X
14	TP04	TP04_0.0-0.1	7/4/10	SOIL	X													X				X					
15		TP04_0.2-0.3	7/4/10	SOIL	X																						X
16		TP04_0.3-0.4	7/4/10	SOIL	X																						X
17		TP04_0.9-1.0	7/4/10	SOIL	X																						X
18	TP05	TP05_0.0-0.1	7/4/10	SOIL	X											X		X			X	X					
19		TP05_0.15-0.25	7/4/10	SOIL	X																						X
20		TP05_0.7-0.8	7/4/10	SOIL	X																						X
21		TP05_0.9-1.0	7/4/10	SOIL	X																						X

Environmental Division
Melbourne
Work Order DW
EM1003791

Telephone : +61-3-8549 9600

PARSONS BRINCKERHOFF

CHAIN OF CUSTODY

RELINQUISHED:	
DATE: 12/04/2010	TIME: 4.00pm
RECEIVED BY:	
DATE:	TIME:
RELINQUISHED:	
DATE:	TIME: 4.00pm
RECEIVED BY:	
DATE:	TIME:
Custody Seal?	(Y) N NA
Samples Cold?	Y N (NA)

Page 1 of 1

ADDRESS: Parson Brinckerhoff, Level 16, 1 King William St, Adelaide SA 5001
PHONE NO: 08 84054300
FAX NO: 08 8405 4301

LABORATORY: ALS
ADDRESS: 4 Westall Road Springvale VIC 3171
PHONE NO: 03 8549 9600
FAX NO: 03 8549 9601

Format Required: csv
email address: auadllabresults@pb.com.au

TURNAROUND DETAILS (mark box)
- [X] Standard - 5 days
- [ ] Non standard (see comments)

PB PROJECT NO: 2160919A
PB Project Manager: Eddie CB
SITE NAME: Hillcrest Hospital ESA
SAMPLERS: HOB, ECB
Agreement No:

COMMENTS: [redacted]

KATIC 13/4 ; 9.15

~~12-14 ... 20.0~~

CONTAINER TYPE & PRESERVATIVE (Solid / Liquid)

ANALYSIS REQUIRED - mark box for each individual analyte type required

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Soil Jar	40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 fill (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN) Comprehensive	Asbestos	Phenols	PCBs	HOLD
22	TP06	TP06_0.0-0.1	7/4/10	SOIL	x													x				x						
23		TP06_0.1-0.2	7/4/10	SOIL	x																							x
24		TP06_0.3-0.4	7/4/10	SOIL	x																							x
25		TP06_0.9-1.0	7/4/10	SOIL	x																							x
26	TP07	TP07_0.0-0.1	7/4/10	SOIL	x																			x				
27	TP07	TP07_0.1-0.2	7/4/10	SOIL	x													x				x						
28		TP07_0.45-0.55	7/4/10	SOIL	x																							x
29		TP07_0.9-0.1.0	7/4/10	SOIL	x																							x
30	TP08	TP08_0.0-0.1	7/4/10	SOIL	x													x				x						
31		TP08_0.45-0.55	7/4/10	SOIL	x																							x
32	TP09	TP09_0.0-0.1	7/4/10	SOIL	x											x		x			x	x						
33		TP09_0.15-0.25	7/4/10	SOIL	x																							x
34		TP09_0.25-0.35	7/4/10	SOIL	x																							x
35		TP09_0.9-1.0	7/4/10	SOIL	x																							x
36	TP10	TP10_0.0-0.1	7/4/10	SOIL	x													x				x						
37		TP10_0.25-0.35	7/4/10	SOIL	x																							x
38		TP10_0.5-0.6	7/4/10	SOIL	x																							x
39		TP10_0.9-1.0	7/4/10	SOIL	x																							x
40	TP11	TP11_0.0-0.1	7/4/10	SOIL	x													x	x	x		x						
41		TP11_0.1-0.2	7/4/10	SOIL	x																							x
42		TP11_0.9-1.0	7/4/10	SOIL	X																							X
43	TP12	TP12_0.0-0.1	7/4/10	SOIL	X											X		X			X	X						
Missing	a	TP12_0.1-0.15	7/4/10	SOIL	X																							X
44		TP12_0.15-0.25	7/4/10	SOIL	X																							X
45		TP12_0.9-1.0	7/4/10	SOIL	X																							X

as per phone call with Eddie 13/4/10 DW

PARSONS BRINCKERHOFF

CHAIN OF CUSTODY

ADDRESS: Person Brinckerhoff, Level 16, 1 King William St, Adelaide SA 5001	LABORATORY: ALS ADDRESS: 4 Westall Road, Springvale VIC 3121	Format Required: csv email address: auadllabresults@pb.com.au	RELINQUISHED: DATE: 12/04/2010 TIME: 4.00pm
PHONE NO: 08 84054300	PHONE NO: 03 8549 9600	TURNAROUND DETAILS (mark box) [X] Standard - 5 days [ ] Non standard (see comments)	RECEIVED BY: DATE: TIME:
FAX NO: 08 8405 4301	FAX NO: 03 8549 9601		RELINQUISHED: DATE: TIME: 4.00pm
PB PROJECT NO: 2160919A	PB Project Manager: Eddie CB		RECEIVED BY: DATE: TIME:
SITE NAME: Hillcrest Hospital ESA	SAMPLERS: HOB, ECB		Custody Seal? Y N NA
Agreement No:			Samples Cold? Y N NA

Page 1 of 1

COMMENTS: [redacted]

13/4, 9.15
~~12 Hp~~ 8.5–10.0
as per phone call with Eddie Ow 13/4/10

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Solid: Soil Jar	Liquid: 40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 full (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN) Comprehensive	Asbestos	Phenols	PCBs	HOLD
46	TP13	TP13_0.0-0.1	7/4/10	SOIL	X													~~X~~				X						
47		TP13_0.1-0.15	7/4/10	SOIL	X																							X
48		TP13_0.2-0.3	7/4/10	SOIL	X																							X
49		TP13_0.9-1.0	7/4/10	SOIL	X																							X
50	TP14	TP14_0.0-0.1	7/4/10	SOIL	X											X		X			X	X						
51		TP14_0.15-0.25	7/4/10	SOIL	X																							X
52		TP14_0.4-0.5	7/4/10	SOIL	X																							X
53		TP14_0.9-1.0	7/4/10	SOIL	X																							X
54	TP15	TP15_0.0-0.1	7/4/10	SOIL	X													X				X						
55		TP15_0.2-0.3	7/4/10	SOIL	X																							X
56		TP15_0.4-0.5	7/4/10	SOIL	X																							X
57		TP15_0.9-1.0	7/4/10	SOIL	X																							X
58	TP16	TP16_0.0-0.1	7/4/10	SOIL	X													X				X						
59		TP16_0.15-0.25	7/4/10	SOIL	X																							X
60		TP16_0.25-0.35	7/4/10	SOIL	X																							X
61		TP16_0.9-1.0	7/4/10	SOIL	X																							X
62	TP17	TP17_0.0-0.1	7/4/10	SOIL	X													X				X						
63		TP17_0.1-0.2	7/4/10	SOIL	X																							X
64 0.35–0.45		TP17_0.45-0.55	7/4/10	SOIL	X																							X
65		TP17_0.9-1.0	7/4/10	SOIL	X																							X
66	TP18	TP18_0.0-0.1	7/4/10	SOIL	X																			X				
67		TP18_0.1-0.2	7/4/10	SOIL	X											X		X			X	X						
68		TP18_0.6-0.7	7/4/10	SOIL	X																							X
69		TP18_0.9-1.0	7/4/10	SOIL	X																							X
70	TP19	TP19_0.0-0.1	7/4/10	SOIL	X													X				X						
71		TP19_0.25-0.35	7/4/10	SOIL	X																							X
72		TP19_0.45-0.55	7/4/10	SOIL	X																							X
73		TP19_0.9-1.0	7/4/10	SOIL	X																							X

CHAIN OF CUSTODY

PARSONS BRINCKERHOFF

ADDRESS:	Parson Brinckerhoff Level 16 1 King William St, Adelaide SA 5001	LABORATORY:	ALS
		ADDRESS:	4 Westall Road Springvale VIC 3171
PHONE NO:	08 8464 3600	PHONE NO:	03 8549 9600
FAX NO:	08 8405 4501	FAX NO:	03 8549 9601
PB PROJECT NO:	2160919A	PB Project Manager:	Eddie CB
SITE NAME:	Hillcrest Hospital ESA	SAMPLERS:	HOB, ECB
Agreement No:			
COMMENTS:	[redacted]		

Format Required: csv
email address: auadlabresults@pb.com.au
TURNAROUND DETAILS (mark box)
X Standard - 5 days
Non standard (see comments)

RELINQUISHED:
DATE: 12/04/2010 TIME: 4.00pm
RECEIVED BY:
DATE: TIME:
RELINQUISHED:
DATE: TIME: 4.00pm
RECEIVED BY:
DATE: TIME:
Custody Seal? Y N NA
Samples Cold? Y N NA

Page 1 of 1

Karen
13/4, 9.15

CONTAINER TYPE & PRESERVATIVE

ANALYSIS REQUIRED - mark box for each individual analyte type required

	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Solid: Soil Jar	Liquid: 40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 Nit (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
74	TP20	TP20_0.0-0.1	7/4/10	SOIL	X													X				X						
75		TP20_0.15-0.25	7/4/10	SOIL	X																							X
76	0.5-0.6	TP20_0.65-0.75	7/4/10	SOIL	X																							X
77		TP20_0.9-1.0	7/4/10	SOIL	X																							X
78	TP21	TP21_0.0-0.1	7/4/10	SOIL	X											X		X			X	X						
79		TP21_0.15-0.25	7/4/10	SOIL	X																							X
80		TP21_0.25-0.35	7/4/10	SOIL	X																							X
81		TP21_0.5-0.6	7/4/10	SOIL	X																							X
82		TP21_0.9-1.0	7/4/10	SOIL	X																							X
83	TP22	TP22_0.0-0.1	8/4/10	SOIL	X													X				X				X	X	
84		TP22_0.1-0.2	8/4/10	SOIL	X																							X
85		TP22_0.2-0.3	8/4/10	SOIL	X											X					X					X		
86		TP22_0.35-0.44	8/4/10	SOIL	X																							X
87		TP22_0.7-0.8	8/4/10	SOIL	X																							X
88		TP22_1.3-1.4	8/4/10	SOIL	X																							X
89	TP23	TP23_0.0-0.1	8/4/10	SOIL	X																							X
96		TP23_0.25-0.35	8/4/10	SOIL	X											X		X			X	X						
91		TP23_1.1-1.2	8/4/10	SOIL	X																							X
92		TP23_1.4-1.5	8/4/10	SOIL	X																							X
93	TP24	TP24_0.0-0.1	8/4/10	SOIL	X																							X
94		TP24_0.1-0.2	8/4/10	SOIL	X											X		X			X	X						
	Y	TP24_0.2-0.3	8/4/10	SOIL	X																							X
95	0.4-0.5	TP24_0.3-0.4	8/4/10	SOIL	X																							X
96		TP24_0.9-1.0	8/4/10	SOIL	X																							X

CHAIN OF CUSTODY

PARSONS BRINCKERHOFF

ADDRESS	Parsons Brinckerhoff Level 16 1 King William St, Adelaide SA 5001	LABORATORY:	ALS
		ADDRESS:	4 Westall Road Springvale VIC 3171
PHONE NO:	08 84054300	PHONE NO:	03 8549 9600
FAX NO:	08 8405 4301	FAX NO:	03 8549 9601
PB PROJECT NO:	2166919A	PB Project Manager:	Eddie CB
SITE NAME:	Hillcrest Hospital ESA	SAMPLERS:	HOB, ECB
Agreement No:			
COMMENTS:	[redacted]		

Format Required: csv
email address: ausdlabresults@pb.com.au
TURNAROUND DETAILS (mark box)
[X] Standard - 5 days
[ ] Non standard (see comments)

RELINQUISHED:	
DATE: 12/04/2010	TIME: 4.00pm
RECEIVED BY:	
DATE:	TIME:
RELINQUISHED:	
DATE:	TIME: 4.00pm
RECEIVED BY:	
DATE:	TIME:
Custody Seal?	Y N NA
Samples Cold?	Y N NA

Page 1 of 1

Phone
13/4, 9.10
8.5 – 10.5

CONTAINER TYPE & PRESERVATIVE

ANALYSIS REQUIRED - mark box for each individual analyte type required

	LAB ID	SAMPLE ID	DATE d/d/mm/yy	MATRIX	Soil Jar	40ml VOA Vial(G) H2SO4 Maroon	50ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1/2 full (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
97	TP25	TP25_0.0-0.1	8/4/10	SOIL	X											X												
98		TP25_0.4-0.5	8/4/10	SOIL	X													X				X						
99		TP25_1.0-1.1	8/4/10	SOIL	X																							
100		TP25_1.4-1.5	8/4/10	SOIL	X																							X
101	TP26	TP26_0.07-0.17	8/4/10	SOIL	X																							X
102		TP26_0.27-0.37	8/4/10	SOIL	X													X				X						
103		TP26_0.6-0.7	8/4/10	SOIL	X																							X
104		TP26_0.9-1.0	8/4/10	SOIL	X																							X
105	TP27	TP27_0.0-0.05	8/4/10	SOIL	X													X				X						
106		TP27_0.1-0.2	8/4/10	SOIL	X																							X
107		TP27_0.5-0.6	8/4/10	SOIL	X																							X
108		TP27_0.9-1.0	8/4/10	SOIL	X																							X
109	TP28	TP28_0.0-0.1	8/4/10	SOIL	X																	X						
110		TP28_0.2-0.3	8/4/10	SOIL	X																			X	X			
111		TP28_1.4-1.5	8/4/10	SOIL	X													X										
112	TP29	TP29_0.0-0.1	8/4/10	SOIL	X																	X						
113		TP29_0.2-0.3	8/4/10	SOIL	X																			X	X			
114		TP29_0.8-0.9	8/4/10	SOIL	X													X										
115	TP30	TP30_0.0-0.1	9/4/10	SOIL	X																							X
116		TP30_0.3-0.4	9/4/10	SOIL	X													X				X						
117		TP30_0.6-0.7	9/4/10	SOIL	X																							X
118		TP30_0.9-1.0	9/4/10	SOIL	X																							X
	[redacted]																											
119	QC02	QC02	7/4/10	SOIL	X													X				X						
120	QC03	QC03	7/4/10	SOIL	X																							X
121	QC04	QC04	8/4/10	SOIL	X													X				X						
122	QC05	QC05	8/4/10	SOIL	X																							X
TOTAL					76	0	0	0	0	0	0	0	0	0	0	12	1	34	2	2	12	33	1	4	2	3	2	82

extra sample 123 = TP08-0.9-1.0 7/4

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **EM1003791**		
Client	: **PARSONS BRINCKERHOFF AUST P/L**	Laboratory	: Environmental Division Melbourne
Contact	: ALL INVOICES/REPORTS ADDRESS	Contact	: Steven McGrath
Address	: GPO BOX 398 ADELAIDE SA, AUSTRALIA 5001	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: auadllabresults@pb.com.au	E-mail	: steven.mcgrath@alsenviro.com
Telephone	: +61 08 8405 4300	Telephone	: +61-3-8549 9600
Facsimile	: +61 08 8405 4301	Facsimile	: +61-3-8549 9601
Project	: 2160919A	Page	: 1 of 6
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009PARBRISA0059 (EN/008/09)
Site	: HILLCREST HOSPITAL ESA		
Sampler	: HOB, ECB	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 13-APR-2010	Issue Date	: 13-APR-2010 17:54
Client Requested Due Date	: 21-APR-2010	Scheduled Reporting Date	: **21-APR-2010**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 8.5-10.5 - Ice bricks present
No. of coolers/boxes	: 2	No. of samples received	: 123
Sercurity Seal	: Intact.	No. of samples analysed	: 42

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times**
- **Please direct any queries related to sample condition / numbering / breakages to Peter Ravlic.**
- **Analytical work for this work order will be conducted at ALS Melbourne.**
- **Asbestos analysis will be subcontraced to ASET.**
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - EA055-103 Moisture Content	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS	SOIL - EP068A (solids) Organochlorine Pesticides by GCMS	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP202(solids) Phenoxyacetic acids
EM1003791-003	07-APR-2010 15:00	TP01_0.0-0.1						✓		✓
EM1003791-004	07-APR-2010 15:00	TP01_0.15-0.25	✓							
EM1003791-005	07-APR-2010 15:00	TP01_0.9-1.0	✓							
EM1003791-006	07-APR-2010 15:00	TP02_0.0-0.1					✓			
EM1003791-007	07-APR-2010 15:00	TP02_0.1-0.2	✓							
EM1003791-008	07-APR-2010 15:00	TP02_0.3-0.4	✓							
EM1003791-009	07-APR-2010 15:00	TP02_0.85-0.95	✓							
EM1003791-010	07-APR-2010 15:00	TP03_0.0-0.1					✓			
EM1003791-011	07-APR-2010 15:00	TP03_0.1-0.2	✓							
EM1003791-012	07-APR-2010 15:00	TP03_0.25-0.35	✓							
EM1003791-013	07-APR-2010 15:00	TP03_0.9-1.0	✓							
EM1003791-014	07-APR-2010 15:00	TP04_0.0-0.1					✓			
EM1003791-015	07-APR-2010 15:00	TP04_0.2-0.3	✓							
EM1003791-016	07-APR-2010 15:00	TP04_0.3-0.4	✓							
EM1003791-017	07-APR-2010 15:00	TP04_0.9-1.0	✓							
EM1003791-018	07-APR-2010 15:00	TP05_0.0-0.1					✓	✓		
EM1003791-019	07-APR-2010 15:00	TP05_0.15-0.25	✓							
EM1003791-020	07-APR-2010 15:00	TP05_0.7-0.8	✓							
EM1003791-021	07-APR-2010 15:00	TP05_0.9-1.0	✓							
EM1003791-022	07-APR-2010 15:00	TP06_0.0-0.1					✓			
EM1003791-023	07-APR-2010 15:00	TP06_0.1-0.2	✓							
EM1003791-024	07-APR-2010 15:00	TP06_0.3-0.4	✓							
EM1003791-025	07-APR-2010 15:00	TP06_0.9-1.0	✓							
EM1003791-027	07-APR-2010 15:00	TP07_0.1-0.2					✓			
EM1003791-028	07-APR-2010 15:00	TP07_0.45-0.55	✓							
EM1003791-029	07-APR-2010 15:00	TP07_0.9-1.0	✓							
EM1003791-030	07-APR-2010 15:00	TP08_0.0-0.1					✓			
EM1003791-031	07-APR-2010 15:00	TP08_0.45-0.55	✓							
EM1003791-032	07-APR-2010 15:00	TP09_0.0-0.1					✓	✓		
EM1003791-033	07-APR-2010 15:00	TP09_0.15-0.25	✓							
EM1003791-034	07-APR-2010 15:00	TP09_0.25-0.35	✓							
EM1003791-035	07-APR-2010 15:00	TP09_0.9-1.0	✓							
EM1003791-036	07-APR-2010 15:00	TP10_0.0-0.1					✓			
EM1003791-037	07-APR-2010 15:00	TP10_0.25-0.35	✓							
EM1003791-038	07-APR-2010 15:00	TP10_0.5-0.6	✓							

			(On Hold) SOIL No analysis requested	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - EA055-103 Moisture Content	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS	SOIL - EP068A (solids) Organochlorine Pesticides by GCMS	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP202(solids) Phenoxyacetic acids
EM1003791-039	07-APR-2010 15:00	TP10_0.9-1.0	✓							
EM1003791-040	07-APR-2010 15:00	TP11_0.0-0.1								✓
EM1003791-041	07-APR-2010 15:00	TP11_0.1-0.2	✓							
EM1003791-042	07-APR-2010 15:00	TP11_0.9-1.0	✓							
EM1003791-043	07-APR-2010 15:00	TP12_0.0-0.1					✓	✓		
EM1003791-044	07-APR-2010 15:00	TP12_0.15-0.25	✓							
EM1003791-045	07-APR-2010 15:00	TP12_0.9-1.0	✓							
EM1003791-046	07-APR-2010 15:00	TP13_0.0-0.1					✓			
EM1003791-047	07-APR-2010 15:00	TP13_0.1-0.15	✓							
EM1003791-048	07-APR-2010 15:00	TP13_0.2-0.3	✓							
EM1003791-049	07-APR-2010 15:00	TP13_0.9-1.0	✓							
EM1003791-050	07-APR-2010 15:00	TP14_0.0-0.1					✓	✓		
EM1003791-051	07-APR-2010 15:00	TP14_0.15-0.25	✓							
EM1003791-052	07-APR-2010 15:00	TP14_0.4-0.5	✓							
EM1003791-053	07-APR-2010 15:00	TP14_0.9-1.0	✓							
EM1003791-054	07-APR-2010 15:00	TP15_0.0-0.1					✓			
EM1003791-055	07-APR-2010 15:00	TP15_0.2-0.3	✓							
EM1003791-056	07-APR-2010 15:00	TP15_0.4-0.5	✓							
EM1003791-057	07-APR-2010 15:00	TP15_0.9-1.0	✓							
EM1003791-058	07-APR-2010 15:00	TP16_0.0-0.1					✓			
EM1003791-059	07-APR-2010 15:00	TP16_0.15-0.25	✓							
EM1003791-060	07-APR-2010 15:00	TP16_0.25-0.35	✓							
EM1003791-061	07-APR-2010 15:00	TP16_0.9-1.0	✓							
EM1003791-062	07-APR-2010 15:00	TP17_0.0-0.1					✓			
EM1003791-063	07-APR-2010 15:00	TP17_0.1-0.2	✓							
EM1003791-064	07-APR-2010 15:00	TP17_0.45-0.55	✓							
EM1003791-065	07-APR-2010 15:00	TP17_0.9-1.0	✓							
EM1003791-067	07-APR-2010 15:00	TP18_0.1-0.2					✓	✓		
EM1003791-068	07-APR-2010 15:00	TP18_0.6-0.7	✓							
EM1003791-069	07-APR-2010 15:00	TP18_0.9-1.0	✓							
EM1003791-070	07-APR-2010 15:00	TP19_0.0-0.1					✓			
EM1003791-071	07-APR-2010 15:00	TP19_0.25-0.35	✓							
EM1003791-072	07-APR-2010 15:00	TP19_0.45-0.55	✓							
EM1003791-073	07-APR-2010 15:00	TP19_0.9-1.0	✓							
EM1003791-074	07-APR-2010 15:00	TP20_0.0-0.1					✓			
EM1003791-075	07-APR-2010 15:00	TP20_0.15-0.25	✓							
EM1003791-076	07-APR-2010 15:00	TP20_0.65-0.75	✓							
EM1003791-077	07-APR-2010 15:00	TP20_0.9-1.0	✓							
EM1003791-078	07-APR-2010 15:00	TP21_0.0-0.1					✓	✓		
EM1003791-079	07-APR-2010 15:00	TP21_0.15-0.25	✓							
EM1003791-080	07-APR-2010 15:00	TP21_0.25-0.35	✓							

			(On Hold) SOIL No analysis requested	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - EA055-103 Moisture Content	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS	SOIL - EP068A (solids) Organochlorine Pesticides by GCMS	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP202(solids) Phenoxyacetic acids
EM1003791-081	07-APR-2010 15:00	TP21_0.5-0.6	✓							
EM1003791-082	07-APR-2010 15:00	TP21_0.9-1.0	✓							
EM1003791-083	08-APR-2010 15:00	TP22_0.0-0.1							✓	
EM1003791-084	08-APR-2010 15:00	TP22_0.1-0.2	✓							
EM1003791-086	08-APR-2010 15:00	TP22_0.35-0.44	✓							
EM1003791-087	08-APR-2010 15:00	TP22_0.7-0.8	✓							
EM1003791-088	08-APR-2010 15:00	TP22_1.3-1.4	✓							
EM1003791-089	08-APR-2010 15:00	TP23_0.0-0.1	✓							
EM1003791-090	08-APR-2010 15:00	TP23_0.25-0.35					✓	✓		
EM1003791-091	08-APR-2010 15:00	TP23_1.1-1.2	✓							
EM1003791-092	08-APR-2010 15:00	TP23_1.4-1.5	✓							
EM1003791-093	08-APR-2010 15:00	TP24_0.0-0.1	✓							
EM1003791-094	08-APR-2010 15:00	TP24_0.1-0.2					✓	✓		
EM1003791-095	08-APR-2010 15:00	TP24_0.3-0.4	✓							
EM1003791-096	08-APR-2010 15:00	TP24_0.9-1.0	✓							
EM1003791-097	08-APR-2010 15:00	TP25_0.0-0.1				✓				
EM1003791-098	08-APR-2010 15:00	TP25_0.4-0.5					✓			
EM1003791-099	08-APR-2010 15:00	TP25_10-1.1	✓							
EM1003791-100	08-APR-2010 15:00	TP25_1.4-1.5	✓							
EM1003791-101	08-APR-2010 15:00	TP26_0.07-0.17	✓							
EM1003791-102	08-APR-2010 15:00	TP26_0.27-0.37					✓			
EM1003791-103	08-APR-2010 15:00	TP26_0.6-0.7	✓							
EM1003791-104	08-APR-2010 15:00	TP26_0.9-1.0	✓							
EM1003791-105	08-APR-2010 15:00	TP27_0.0-0.05					✓			
EM1003791-106	08-APR-2010 15:00	TP27_0.1-0.2	✓							
EM1003791-107	08-APR-2010 15:00	TP27_0.5-0.6	✓							
EM1003791-108	08-APR-2010 15:00	TP27_0.9-1.0	✓							
EM1003791-109	08-APR-2010 15:00	TP28_0.0-0.1			✓		✓			
EM1003791-110	08-APR-2010 15:00	TP28_0.2-0.3		✓						
EM1003791-112	08-APR-2010 15:00	TP29_0.0-0.1			✓		✓			
EM1003791-113	08-APR-2010 15:00	TP29_0.2-0.3		✓						
EM1003791-115	09-APR-2010 15:00	TP30_0.0-0.1	✓							
EM1003791-116	09-APR-2010 15:00	TP30_0.3-0.4					✓			
EM1003791-117	09-APR-2010 15:00	TP30_0.6-0.7	✓							
EM1003791-118	09-APR-2010 15:00	TP30_0.9-1.0	✓							
EM1003791-119	07-APR-2010 15:00	QC02					✓			
EM1003791-120	07-APR-2010 15:00	QC03	✓							
EM1003791-121	08-APR-2010 15:00	QC04					✓			
EM1003791-122	08-APR-2010 15:00	QC05	✓							
EM1003791-123	07-APR-2010 15:00	TP08_0.9-1.0	✓							

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - P-15/2 SA EPA Waste Classification-Upper Level	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-11 OC/PCB	SOIL - S-12 OC/OP Pesticides	SOIL - S-14A PAH/Phenols (16 PAH - SIM)	SOIL - TPH only TPH (C6 - C36)
EM1003791-003	07-APR-2010 15:00	TP01_0.0-0.1		✓		✓		✓
EM1003791-006	07-APR-2010 15:00	TP02_0.0-0.1		✓				
EM1003791-010	07-APR-2010 15:00	TP03_0.0-0.1		✓				
EM1003791-014	07-APR-2010 15:00	TP04_0.0-0.1		✓				
EM1003791-018	07-APR-2010 15:00	TP05_0.0-0.1		✓				✓
EM1003791-022	07-APR-2010 15:00	TP06_0.0-0.1		✓				
EM1003791-026	07-APR-2010 15:00	TP07_0.0-0.1	✓					
EM1003791-027	07-APR-2010 15:00	TP07_0.1-0.2		✓				
EM1003791-030	07-APR-2010 15:00	TP08_0.0-0.1		✓				
EM1003791-032	07-APR-2010 15:00	TP09_0.0-0.1		✓				✓
EM1003791-036	07-APR-2010 15:00	TP10_0.0-0.1		✓				
EM1003791-040	07-APR-2010 15:00	TP11_0.0-0.1		✓		✓		
EM1003791-043	07-APR-2010 15:00	TP12_0.0-0.1		✓				✓
EM1003791-046	07-APR-2010 15:00	TP13_0.0-0.1		✓				
EM1003791-050	07-APR-2010 15:00	TP14_0.0-0.1		✓				✓
EM1003791-054	07-APR-2010 15:00	TP15_0.0-0.1		✓				
EM1003791-058	07-APR-2010 15:00	TP16_0.0-0.1		✓				
EM1003791-062	07-APR-2010 15:00	TP17_0.0-0.1		✓				
EM1003791-066	07-APR-2010 15:00	TP18_0.0-0.1	✓					
EM1003791-067	07-APR-2010 15:00	TP18_0.1-0.2		✓				✓
EM1003791-070	07-APR-2010 15:00	TP19_0.0-0.1		✓				
EM1003791-074	07-APR-2010 15:00	TP20_0.0-0.1		✓				
EM1003791-078	07-APR-2010 15:00	TP21_0.0-0.1		✓				✓
EM1003791-083	08-APR-2010 15:00	TP22_0.0-0.1		✓	✓			
EM1003791-085	08-APR-2010 15:00	TP22_0.2-0.3					✓	✓
EM1003791-090	08-APR-2010 15:00	TP23_0.25-0.35		✓				✓
EM1003791-094	08-APR-2010 15:00	TP24_0.1-0.2		✓				✓
EM1003791-097	08-APR-2010 15:00	TP25_0.0-0.1					✓	✓
EM1003791-098	08-APR-2010 15:00	TP25_0.4-0.5		✓				
EM1003791-102	08-APR-2010 15:00	TP26_0.27-0.37		✓				
EM1003791-105	08-APR-2010 15:00	TP27_0.0-0.05		✓				
EM1003791-110	08-APR-2010 15:00	TP28_0.2-0.3	✓					
EM1003791-111	08-APR-2010 15:00	TP28_1.4-1.5		✓				
EM1003791-113	08-APR-2010 15:00	TP29_0.2-0.3	✓					
EM1003791-114	08-APR-2010 15:00	TP29_0.8-0.9		✓				
EM1003791-116	09-APR-2010 15:00	TP30_0.3-0.4		✓				
EM1003791-119	07-APR-2010 15:00	QC02		✓				
EM1003791-121	08-APR-2010 15:00	QC04		✓				

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-02T 8 metals (Total)	WATER - W-18 TPH(C6 - C9)/BTEX
EM1003791-001	09-APR-2010 15:00	TB01		✓
EM1003791-002	09-APR-2010 15:00	RB01	✓	

Requested Deliverables

ALL INVOICES/REPORTS ADDRESS

- *AU Certificate of Analysis - NATA (COA)	Email	auadllabresults@pb.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	auadllabresults@pb.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	auadllabresults@pb.com.au
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	auadllabresults@pb.com.au
- A4 - AU Tax Invoice (INV)	Email	auadllabresults@pb.com.au
- Attachment - Report (SUBCO)	Email	auadllabresults@pb.com.au
- Chain of Custody (CoC) (COC)	Email	auadllabresults@pb.com.au
- EDI Format - EQUIS V3 (EQUIS_V3)	Email	auadllabresults@pb.com.au
- EDI Format - ESDAT (ESDAT)	Email	auadllabresults@pb.com.au

MR EDDIE CRUICKSHANKS-BOYD

- *AU Certificate of Analysis - NATA (COA)	Email	ECruickshanks@pb.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	ECruickshanks@pb.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	ECruickshanks@pb.com.au
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	ECruickshanks@pb.com.au
- Attachment - Report (SUBCO)	Email	ECruickshanks@pb.com.au
- Chain of Custody (CoC) (COC)	Email	ECruickshanks@pb.com.au
- EDI Format - EQUIS V3 (EQUIS_V3)	Email	ECruickshanks@pb.com.au
- EDI Format - ESDAT (ESDAT)	Email	ECruickshanks@pb.com.au

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

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3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

CERTIFICATE OF ANALYSIS

Parsons Brinckerhoff Australia P/L SA
101 PIRIE STREET
ADELAIDE
SA 5000
Site: HILLCREST HOSPITAL ESA 2160919A

Report Number: 262572-A-V1 Page 1 of 7
Order Number:
Date Received: Apr 13, 2010
Date Sampled: Apr 7, 2010
Date Reported: Apr 20, 2010
Contact: Eddie Cruickshanks-Boyd

Methods

- USEPA 8081A Organochlorine Pesticides
- USEPA 8270C Polycyclic Aromatic Hydrocarbons
- TRH C6-C36 - MGT 100A
- USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
- Method 102 - ANZECC - % Moisture

Comments

Notes

Authorised

Report Number: 262572-A-V1

Michael Wright
Senior Principal Chemist
NATA Signatory

Onur Mehmet
Client Manager
NATA Signatory

Orlando Scalzo
Chief Organic Chemist
NATA Signatory

Andrew Cook
Chief Inorganic Chemist

GLOSSARY OF TERMS

UNITS

mg/kg	milligrams per Kilogram	**mg/l**	milligrams per litre
ug/l	micrograms per litre	**ppm**	Parts per million
ppb	Parts per billion	**%**	Percentage
org/100ml	Organisms per 100 millilitres	**NTU**	Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice

QC - ACCEPTANCE CRITERIA

RPD Duplicates	Results <10 times the LOR : No Limit Results between 10-20 times LOR : RPD must lie between 0-50% Results >20 times LOR : RPD must lie between 0-20%
LCS Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
CRM Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Method Blanks	Not to exceed LOR
SPIKE Recoveries	Recoveries must lie between 70-130% - Phenols 30-130%
Surrogate Recoveries	Recoveries must lie between 50-150% - Phenols 20-130%

GENERAL COMMENTS

1. All results in this report supersede any previously corresponded results.
2. All soil results are reported on a dry basis.
3. Samples are analysed on an as received basis.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR this is due to either Matrix Interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Orgaonchlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
7. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
8. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
9. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two two sets of data below the LOR with a positive RPD - eg: LOR 0.1, Result A = <0.1 (raw data is 0.02) & Result B = <0.1 (raw data is 0.03) resulting in a RPD of 40% calculated from the raw data.

REPORT SPECIFIC NOTES

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

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Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Company Name: Parsons Brinckerhoff Aust P/L SA
Address: 101 PIRIE STREET
ADELAIDE
SA 5000

Order No.:
Report #: 262572
Phone: 08 8405 4300
Fax: 08 8405 4301

Received: Apr 13, 2010 12:00
Due: Apr 20, 2010 09:52
Priority: 5 Day
Contact name: Eddie Cruickshanks-Boyd

Client Job No.: HILLCREST HOSPITAL ESA 2160919A

mgt Client Manager: Onur Mehmet

Sample Detail					% Moisture	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site #1254					X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site #18217																
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
QC01	Apr 07, 2010		Soil	M10-Ap03571	X	X	X	X	X	X	X	X	X	X	X	X

Parsons Brinckerhoff Australia P/L SA **101 PIRIE STREET** **ADELAIDE** **SA 5000**	**Client Sample ID** **Lab Number** **Matrix** **Sample Date**		**QC01** **O10-Ap03571** **Soil** **Apr 7, 2010**
Analysis Type	**LOR**	**Units**	
Total Recoverable Hydrocarbons			
TRH C6-C9 Fraction by GC	20	mg/kg	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.1	mg/kg	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1
Anthracene	0.1	mg/kg	< 0.1
Benz(a)anthracene	0.1	mg/kg	< 0.1
Benzo(a)pyrene	0.1	mg/kg	< 0.1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1
Chrysene	0.1	mg/kg	< 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1
Fluorene	0.1	mg/kg	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1
Naphthalene	0.1	mg/kg	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1
Pyrene	0.1	mg/kg	< 0.1
Total PAH	0.1	mg/kg	< 0.1
p-Terphenyl-d14 (surr.)	1	%	109
2-Fluorobiphenyl (surr.)	1	%	97
Organochlorine Pesticides			
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05

COMMENTS:

Parsons Brinckerhoff Australia P/L SA **101 PIRIE STREET** **ADELAIDE** **SA 5000**	**Client Sample ID**		**QC01**
	Lab Number		**O10-Ap03571**
	Matrix		**Soil**
	Sample Date		**Apr 7, 2010**
Analysis Type	**LOR**	**Units**	
b-BHC	0.05	mg/kg	< 0.05
Chlordane	0.1	mg/kg	< 0.1
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxophene	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	105
Tetrachloro-m-xylene (surr.)	1	%	94
% Moisture	0.1	%	16
Heavy Metals			
Arsenic	2.0	mg/kg	3.1
Cadmium	0.5	mg/kg	< 0.5
Chromium	5	mg/kg	19
Copper	5	mg/kg	19
Lead	5	mg/kg	18
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	8.8
Zinc	5	mg/kg	37

COMMENTS:

Parsons Brinckerhoff Australia P/L SA 101 PIRIE STREET ADELAIDE SA 5000	Client Sample ID	QC01	QC01	RPD	SPIKE	LCS	Method blank
	Lab Number	10-Ap03571	10-Ap03571	10-Ap03571	10-Ap03571	Batch	Batch
	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery	% Recovery	
	Matrix	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	Apr 7, 2010	Apr 7, 2010	Apr 7, 2010	Apr 7, 2010	Apr 7, 2010	Apr 7, 2010
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/kg
Total Recoverable Hydrocarbons		Batch	Batch	Batch	Batch		
TRH C6-C9 Fraction by GC		< 20	< 20	< 1	91	117	< 20
TRH C10-C14 Fraction by GC		< 50	< 50	< 1	96	98	< 50
TRH C15-C28 Fraction by GC		< 100	< 100	< 1	-	-	< 100
TRH C29-C36 Fraction by GC		< 100	< 100	< 1	-	-	< 100
Polycyclic Aromatic Hydrocarbons		Batch	Batch	Batch	Batch		
Acenaphthene		< 0.1	< 0.1	< 1	101	104	< 0.1
Acenaphthylene		< 0.1	< 0.1	< 1	104	107	< 0.1
Anthracene		< 0.1	< 0.1	< 1	112	112	< 0.1
Benz(a)anthracene		0.1	0.1	11	103	102	< 0.1
Benzo(a)pyrene		0.1	0.1	< 1	89	89	< 0.1
Benzo(b)fluoranthene		0.1	0.1	9.0	102	107	< 0.1
Benzo(g.h.i)perylene		< 0.1	< 0.1	< 1	102	90	< 0.1
Benzo(k)fluoranthene		< 0.1	< 0.1	< 1	103	108	< 0.1
Chrysene		< 0.1	< 0.1	< 1	99	101	< 0.1
Dibenz(a.h)anthracene		< 0.1	< 0.1	< 1	115	97	< 0.1
Fluoranthene		0.2	0.1	8.0	91	103	< 0.1
Fluorene		< 0.1	< 0.1	< 1	105	107	< 0.1
Indeno(1.2.3-cd)pyrene		< 0.1	< 0.1	< 1	107	94	< 0.1
Naphthalene		< 0.1	< 0.1	< 1	97	100	< 0.1
Phenanthrene		< 0.1	< 0.1	< 1	109	106	< 0.1
Pyrene		0.2	0.2	4.0	89	102	< 0.1
Organochlorine Pesticides		Batch	Batch	Batch	Batch		
4.4'-DDD		< 0.05	< 0.05	< 1	100	99	< 0.05
4.4'-DDE		< 0.05	< 0.05	< 1	94	106	< 0.05
4.4'-DDT		< 0.05	< 0.05	< 1	73	70	< 0.05
a-BHC		< 0.05	< 0.05	< 1	94	93	< 0.05
Aldrin		< 0.05	< 0.05	< 1	92	90	< 0.05
b-BHC		< 0.05	< 0.05	< 1	96	99	< 0.05

COMMENTS:

mgt Environmental

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Parsons Brinckerhoff Australia P/L SA
101 PIRIE STREET
ADELAIDE

SA 5000

	Client Sample	**QC01**	**QC01**	**RPD**	**SPIKE**	**LCS**	**Method blank**
	Lab Number	**10-Ap03571**	**10-Ap03571**	**10-Ap03571**	**10-Ap03571**	**Batch**	**Batch**
	QA Description		**Duplicate**	**Duplicate % RPD**	**Spike % Recovery**	**% Recovery**	
	Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Sample Date	**Apr 7, 2010**	**Apr 7, 2010**	**Apr 7, 2010**	**Apr 7, 2010**	**Apr 7, 2010**	**Apr 7, 2010**
Analysis Type	**Units**			% RPD	% Recovery	% Recovery	mg/kg
Organochlorine Pesticides		Batch	Batch	Batch	Batch		
Chlordane		< 0.1	< 0.1	< 1	-	-	< 0.1
d-BHC		< 0.05	< 0.05	< 1	123	92	< 0.05
Dieldrin		< 0.05	< 0.05	< 1	110	108	< 0.05
Endosulfan I		< 0.05	< 0.05	< 1	93	92	< 0.05
Endosulfan II		< 0.05	< 0.05	< 1	96	97	< 0.05
Endosulfan sulphate		< 0.05	< 0.05	< 1	89	91	< 0.05
Endrin		< 0.05	< 0.05	< 1	89	83	< 0.05
Endrin aldehyde		< 0.05	< 0.05	< 1	82	89	< 0.05
Endrin ketone		< 0.05	< 0.05	< 1	86	90	< 0.05
g-BHC (Lindane)		< 0.05	< 0.05	< 1	112	120	< 0.05
Heptachlor		< 0.05	< 0.05	< 1	89	86	< 0.05
Heptachlor epoxide		< 0.05	< 0.05	< 1	91	91	< 0.05
Hexachlorobenzene		< 0.05	< 0.05	< 1	99	102	< 0.05
Methoxychlor		< 0.05	< 0.05	< 1	72	72	< 0.05
Toxophene		< 0.1	< 0.1	< 1	-	-	< 0.1
Heavy Metals		Batch	Batch	Batch	Batch		
Arsenic		9.7	11	17	94	99	< 2
Cadmium		< 0.5	< 0.5	< 1	97	104	< 0.5
Chromium		12	12	1.1	96	105	< 5
Copper		160	170	1.2	101	111	< 5
Lead		13	12	7.9	91	107	< 5
Mercury		< 0.1	< 0.1	< 1	85	99	< 0.1
Nickel		< 5	< 5	< 1	92	105	< 5
Zinc		18	14	22	90	102	< 5

COMMENTS:

Enquiries

From: sample_receipt_5
Sent: Wednesday, 14 April 2010 8:55 AM
To: Enquiries
Subject: FW: coc for PB sample

img-4131718-0001.pdf (68 KB)

James Gould
Sample Receipt
sample_receipt_5@mgtenv.com.au

3-5 Kingston Town Close,

Oakleigh, Vic 3166

T:(+61) (3) 9564 7055 - F:(+61) (3) 9564 7190

-----Original Message-----
From: Samples Melbourne [mailto:Samples.Melbourne@alsenviro.com]
Sent: Tuesday, 13 April 2010 5:18 PM
To: sample_receipt_5
Subject: coc for PB sample

Hi James

Attached is the coc for the PB sample send today (QC01). The analysis are TPH, Total Metals (8), PAH & OCP

Regards

Ranil Weerakkody
Sample Receipt Supervisor
ALS Laboratory Group
Environmental Division
Melbourne, Australia
Phone: +61 3 8549 9600
Fax: +61 3 8549 9601
www.alsglobal.com

Received by: Rabjot
Rep: 262572

CONSULTANT

PARSONS BRINCKERHOFF — CHAIN OF COUSTODY

ADDRESS	Parson Brinckerhoff, Level 16, 1 King William St, Adelaide SA 5000	LABORATORY	ALS
		ADDRESS	4 Westall Road, Springvale VIC 3121
PHONE NO	08 84054300	PHONE NO	03 8549 9600
FAX NO	08 8405 4301	FAX NO	03 8549 9601
PB PROJECT NO: 2160919A		PB Project Manager: Eddie CB	
SITE NAME: Hillcrest Hospital ESA		SAMPLERS:	HOB, ECB
Agreement No:			

Format Required: csv

email address: auadllabresults@pb.com.au

TURNAROUND DETAILS (mark box)

- [X] Standard - 5 days
- [ ] Non standard (see comments)

RELINQUISHED:

DATE 12/04/2010 TIME 4.00pm

RECEIVED BY:

DATE TIME

RELINQUISHED:

DATE TIME: 4.00pm

RECEIVED BY:

DATE TIME

Custody Seal? Y N NA

Samples Cold? Y N NA

Page 1 of 1

Ref - 2

Phan
13/4, 9.15
8.5 – 10.5

Received by: Robyn
Rep: 262572

COMMENTS: [redacted]

CONTAINER TYPE & PRESERVATIVE (Solid: Soil Jar; Liquid: remaining container columns)

ANALYSIS REQUIRED - mark box for each individual analyte type required

LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Soil Jar	40ml VOA Vial(G) H2SO4 Maroon	500ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) Nat. Green	500ml (G) Nat. Yellow	100ml (P) HCL	40ml VOA Vial(G) 1:2 NI (methane)	250ml (G) H2SO4 Maroon	Other	Total Containers	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid herbicides	PAH	OCP	TPH C6-C9	General Screen (SA EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
TP25	TP25_0.0-0.1	8/4/10	SOIL	X											X					X					X	X	
	TP25_0.4-0.5	8/4/10	SOIL	X													X				X						
	TP25_1.0-1.1	8/4/10	SOIL	X																							X
	TP25_1.4-1.5	8/4/10	SOIL	X																							X
TP26	TP26_0.07-0.17	8/4/10	SOIL	X																							X
	TP26_0.27-0.37	8/4/10	SOIL	X													X				X						
	TP26_0.6-0.7	8/4/10	SOIL	X																							X
	TP26_0.9-1.0	8/4/10	SOIL	X																							X
TP27	TP27_0.0-0.05	8/4/10	SOIL	X													X				X						
	TP27_0.1-0.2	8/4/10	SOIL	X																							X
	TP27_0.5-0.6	8/4/10	SOIL	X																							X
	TP27_0.9-1.0	8/4/10	SOIL	X																							X
TP28	TP28_0.0-0.1	8/4/10	SOIL	X																	X						
	TP28_0.2-0.3	8/4/10	SOIL	X																			X	X			
	TP28_1.4-1.5	8/4/10	SOIL	X													X										
TP29	TP29_0.0-0.1	8/4/10	SOIL	X																	X						
	TP29_0.2-0.3	8/4/10	SOIL	X																			X	X			
	TP29_0.8-0.9	8/4/10	SOIL	X													X										
TP30	TP30_0.0-0.1	9/4/10	SOIL	X																							X
	TP30_0.3-0.4	9/4/10	SOIL	X													X				X						
	TP30_0.6-0.7	9/4/10	SOIL	X																							X
	TP30_0.9-1.0	9/4/10	SOIL	X																							X
[redacted]																											
QC02	QC02	7/4/10	SOIL	X													X				X						
QC03	QC03	7/4/10	SOIL	X																							X
QC04	QC04	8/4/10	SOIL	X													X				X						
QC05	QC05	8/4/10	SOIL	X																							X
TOTAL				0	0	0	0	0	0	0	0	0	0	0	12	1	34	2	2	12	33	1	4	2	3	2	82

13/4
1.00

PARSONS BRINCKERHOFF

CHAIN OF CUSTODY

ADDRESS	Parsons Brinckerhoff, Level [illegible], [illegible]	LABORATORY	ALS
		ADDRESS	[illegible]
PHONE NO	[illegible]	PHONE NO	[illegible]
FAX NO	[illegible]	FAX NO	[illegible]
PB PROJECT NO. [illegible]		PB Project Manager: [illegible]	
SITE NAME: [illegible]		SAMPLERS:	[illegible]
Agreement No.:			
COMMENTS:	[redacted]		

Email Address: [illegible]

TURNAROUND DETAILS (mark box)

- [X] Standard 5 days
- [ ] Non standard (see comments)

RELINQUISHED		
DATE [illegible]		TIME 4.00pm
RECEIVED BY		
DATE		TIME
RELINQUISHED		
DATE		TIME 4.00pm
RECEIVED BY		
DATE		TIME
Custody Seal?	Y N NA	
Sample Cold?	Y N NA	

Page 1 of 1

Pharu
13/4, 9.15
8.5 — 10.5

CONTAINER TYPE & PRESERVATIVE

No.	LAB ID	SAMPLE ID	DATE dd/mm/yy	MATRIX	Solid: Soil Jar	Liquid: 40ml VOA Vial (G) H2SO4 Maroon	250ml (G) H2SO4 Maroon	100ml HNO3 Red	100ml (P) NaOH Green	200ml (G) Nil Yellow	100ml (P) HCl	40ml VOA Vial (G) 1:2 Nil (methanol)	250ml (G) H2SO4 Maroon	Other	Total Containers
97	TP25	TP25_0.0-0.1	8/4/10	SOIL	X										
98		TP25_0.4-0.5	8/4/10	SOIL	X										
99		TP25_1.0-1.1	8/4/10	SOIL	X										
100		TP25_1.4-1.5	8/4/10	SOIL	X										
101	TP26	TP26_0.07-0.17	8/4/10	SOIL	X										
102		TP26_0.27-0.37	8/4/10	SOIL	X										
103		TP26_0.6-0.7	8/4/10	SOIL	X										
104		TP26_0.9-1.0	8/4/10	SOIL	X										
105	TP27	TP27_0.0-0.05	8/4/10	SOIL	X										
106		TP27_0.1-0.2	8/4/10	SOIL	X										
107		TP27_0.6-0.8	8/4/10	SOIL	X										
108		TP27_0.9-1.0	8/4/10	SOIL	X										
109	TP28	TP28_0.0-0.1	8/4/10	SOIL	X										
110		TP28_0.2-0.3	8/4/10	SOIL	X										
111		TP28_1.4-1.5	8/4/10	SOIL	X										
112	TP29	TP29_0.0-0.1	8/4/10	SOIL	X										
113		TP29_0.2-0.3	8/4/10	SOIL	X										
114		TP29_0.8-0.9	8/4/10	SOIL	X										
115	TP30	TP30_0.0-0.1	9/4/10	SOIL	X										
116		TP30_0.3-0.4	9/4/10	SOIL	X										
117		TP30_0.6-0.7	9/4/10	SOIL	X										
118		TP30_0.9-1.0	9/4/10	SOIL	X										
[redacted]															
119	QC02	QC02	7/4/10	SOIL	X										
120	QC03	QC03	7/4/10	SOIL	X										
121	QC04	QC04	8/4/10	SOIL	X										
122	QC05	QC05	8/4/10	SOIL	X										
	TOTAL				0	0	0	0	0	0	0	0	0	0	0

ANALYSIS REQUIRED - mark box for each individual analyte type required

SAMPLE ID	TPH	BTEX	Total Metals (8)	OP Pesticides	Phenoxyacid Herbicides	PAH	OCP	TPH C6-C9	General Screen (NSW EPA WASTE SCREEN)	Asbestos	Phenols	PCBs	HOLD
TP25_0.0-0.1	X					X					X	X	
TP25_0.4-0.5			X				X						
TP25_1.0-1.1													X
TP25_1.4-1.5													X
TP26_0.07-0.17													X
TP26_0.27-0.37			X				X						
TP26_0.6-0.7													X
TP26_0.9-1.0													X
TP27_0.0-0.05			X				X						
TP27_0.1-0.2													X
TP27_0.6-0.8													X
TP27_0.9-1.0													X
TP28_0.0-0.1							X						
TP28_0.2-0.3									X	X			
TP28_1.4-1.5			X										
TP29_0.0-0.1							X						
TP29_0.2-0.3									X	X			
TP29_0.8-0.9			X										
TP30_0.0-0.1													X
TP30_0.3-0.4			X				X						
TP30_0.6-0.7													X
TP30_0.9-1.0													X
[redacted]													
QC02			X				X						
QC03													X
QC04			X				X						
QC05													X
TOTAL	12	1	34	2	2	12	33	1	4	2	3	2	82

extra sample 123 TP08-0.9-1.0 7/4

mgt Environmental

ABN – 50 005 085 521 e.mail : mgt@mgtenv.com.au web : www.mgtenv.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : 03 9564 7055
NATA Site # 1254

Sydney
1a Chilvers Rd
Thornleigh NSW 2120
Phone : 02 9484 3300
NATA Site # 18217

Adelaide
140 Richmond Rd
Marleston SA 5033
Phone : 08 8443 4430

Sample Receipt Advice

Company name: **Parsons Brinckerhoff Aust P/L SA**

Contact name: Eddie Cruickshanks-Boyd
Client job number: HILLCREST HOSPITAL ESA 2160919A
COC number: Not provided
Turn around time: 5 Day
Date received: Apr 13, 2010
MGT lab reference: **262572**

Sample information

☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☒ All samples have been received as described on the above COC.

☒ COC has been completed correctly.

☒ Attempt to chill was evident.

☒ Appropriately preserved sample containers have been used.

☒ All samples were received in good condition.

☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☒ Organic samples had Teflon liners.

☒ Samples received with Zero Headspace.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

Onur Mehmet on Phone : (03) 9564 7055 or by e.mail: mehmeto@mgtenv.com.au

Results will be delivered electronically via e.mail to Eddie Cruickshanks-Boyd - ecruickshanks@pb.com.au.

mgt Sample Receipt

Golder Associates Pty Ltd

199 Franklin Street, Adelaide SA 5000

Particle Size Distribution & Consistency Limits Test Report

Client:	Parsons Brinckerhoff, GPO Box 398, Adelaide, SA, 5001		
Project:	Geotechnical Testing- PB Project No. 2160919A	**Date:**	28-Apr-10
Location:	Submitted Samples	**Job No.** 107664096	**Report No.** 107664096 / R1
Lab Reference No.	10641079	**Sample Identification:**	TP27 - Sample #63152 (0.3m - 0.5m) - Sampled 8/4/10
Laboratory Specimen Description:	(Cl) Sandy CLAY, medium plasticity, brown, approx. 45% fine to coarse sand, trace of fine gravel.		

Particle Size Distribution AS1289 3.6.1

Sieve Size	% Passing	Specification
150 mm	100	
75 mm	100	
53 mm	100	
37.5 mm	100	
26.5 mm	100	
19.0 mm	100	
13.2 mm	100	
9.5 mm	100	
6.7 mm	100	
4.75 mm	99	
2.36 mm	98	
1.18 mm	96	
600 um	93	
425 um	91	
300 um	87	
150 um	71	
75 um	53	

Consistency Limits and Moisture Content

Test		Method	Result	Spec.
Liquid Limit	%	AS1289 3.1.2	ND	
Plastic Limit	%	AS1289 3.2.1	ND	
Plasticity Index	%	AS1289 3.3.1	ND	
Linear Shrinkage	%	AS1289 3.4.1	ND	
Moisture Content	%	AS1289 2.1.1	14.8	

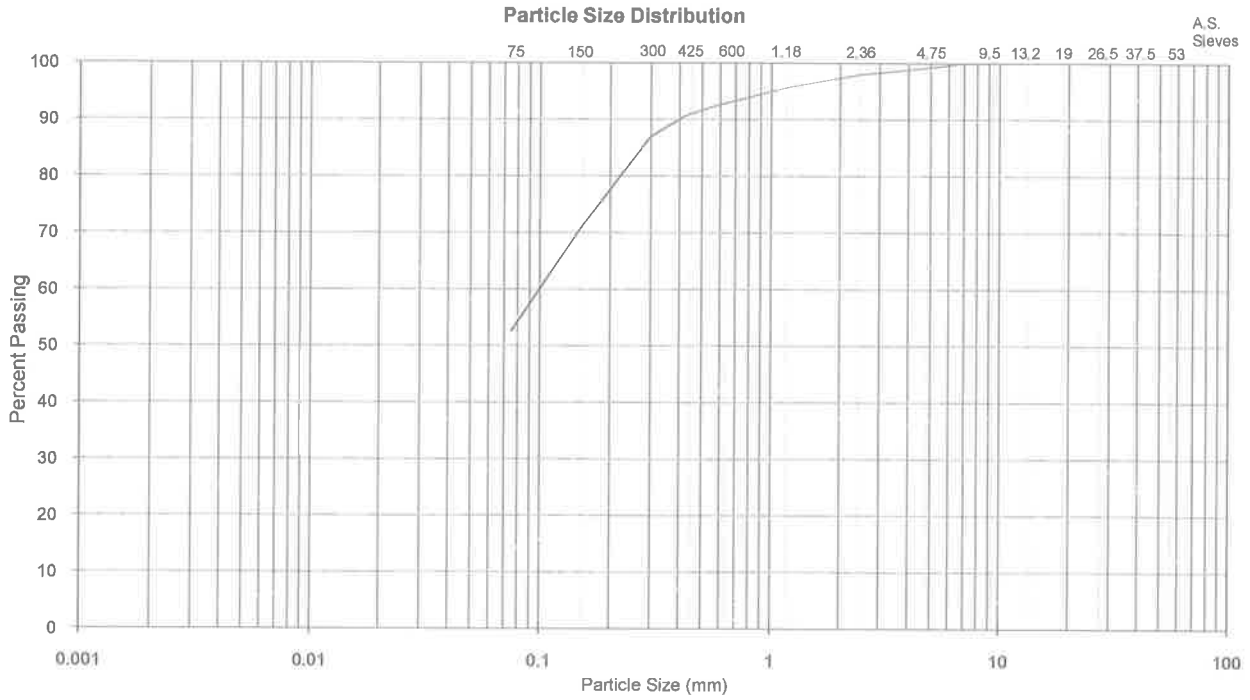
Sample History:	Air Dried
Preparation Method:	Dry sieved
Crumbling / Curling of linear shrinkage:	No
Linear shrinkage mould length:	250 mm

ND = not determined NO = not obtainable NP = non plastic

Moisture / Dry Density Relationship AS 1289 5.2.1

Maximum Dry Density:	t/m3
Optimum Moisture Content:	%

Notes The results contained in this report relate only to the sample(s) submitted for testing. Golder Associates accepts no responsibility for the representivity of the sample submitted.



Approved Signatory, Ben Wessling - Senior Technical Officer

Golder Associates Pty Ltd

199 Franklin Street, Adelaide SA 5000

Particle Size Distribution & Consistency Limits Test Report

Client:	Parsons Brinckerhoff, GPO Box 398, Adelaide, SA, 5001		
Project:	Geotechnical Testing- PB Project No. 2160919A	**Date:**	28-Apr-10
Location:	Submitted Samples	**Job No.** 107664096	**Report No.** 107664096 / R2
Lab Reference No.	10641080	**Sample Identification:**	DP09 - Sample #63155 (0.3m - 0.6m) - Sampled 8/4/10
Laboratory Specimen Description:		(Cl) Sandy CLAY, medium plasticity, brown, approx. 40% fine to coarse sand, trace of fine gravel.	

Particle Size Distribution AS1289 3.6.1

Sieve Size	% Passing	Specification
150 mm	100	
75 mm	100	
53 mm	100	
37.5 mm	100	
26.5 mm	100	
19.0 mm	100	
13.2 mm	98	
9.5 mm	97	
6.7 mm	96	
4.75 mm	95	
2.36 mm	94	
1.18 mm	92	
600 um	90	
425 um	88	
300 um	85	
150 um	70	
75 um	56	

Consistency Limits and Moisture Content

Test		Method	Result	Spec.
Liquid Limit	%	AS1289 3.1.2	ND	
Plastic Limit	%	AS1289 3.2.1	ND	
Plasticity Index	%	AS1289 3.3.1	ND	
Linear Shrinkage	%	AS1289 3.4.1	ND	
Moisture Content	%	AS1289 2.1.1	15.1	

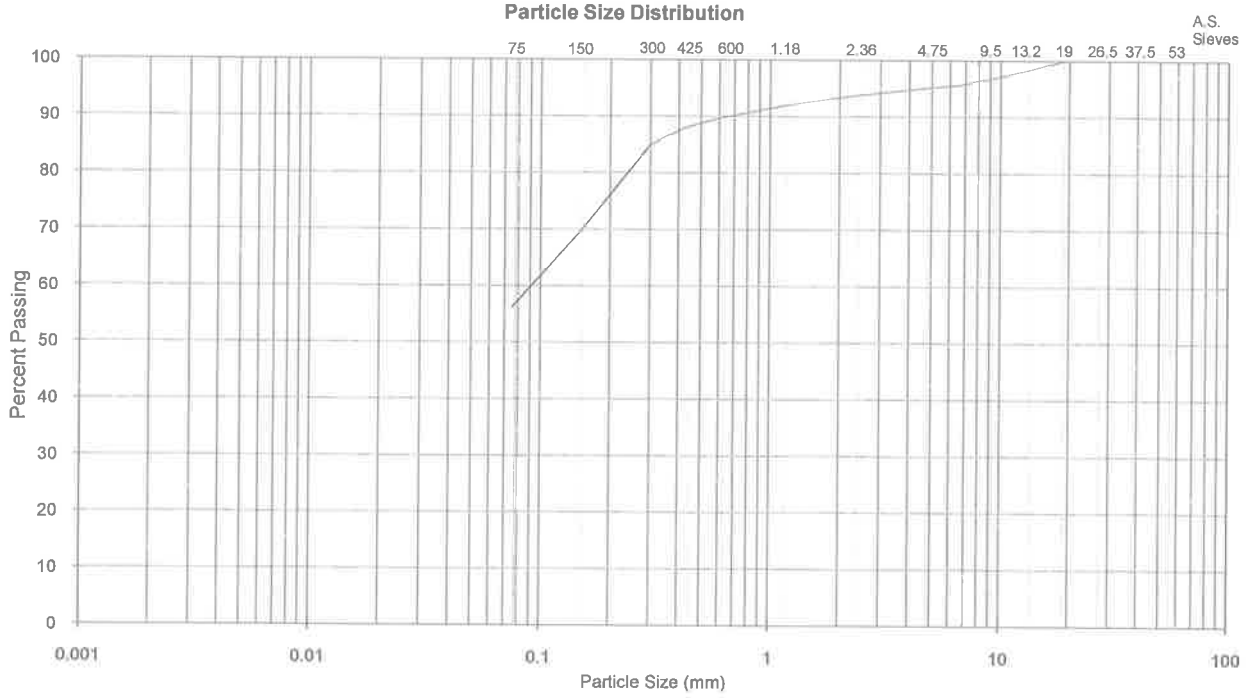
Sample History:	Air Dried
Preparation Method:	Dry sieved
Crumbling / Curling of linear shrinkage:	No
Linear shrinkage mould length:	250 mm

ND = not determined NO = not obtainable NP = non plastic

Moisture / Dry Density Relationship AS 1289 5.2.1

Maximum Dry Density:	t/m3
Optimum Moisture Content:	%

Notes The results contained in this report relate only to the sample(s) submitted for testing. Golder Associates accepts no responsibility for the representivity of the sample submitted.



Adelaide Laboratory - Accredited Laboratory No. 1961

AD1069.xls
121006

Approved Signatory, Ben Wessling - Senior Technical Officer

Golder Associates Pty Ltd
199 Franklin Street, Adelaide SA 5000

California Bearing Ratio Test Report

Client:	**Parsons Brinckerhoff** **GPO Box 398, Adelaide, SA, 5001**	**Project No.**	**107664096**
Project:	**Geotechnical Testing – PB Project No. 2160919A**	**Report No.**	**107664096 / R3**
Location:	**Submitted Samples**	**Date:**	**28 April 2010**

SAMPLE INFORMATION

Lab Reference No.	10640179	10640180	
Date Sampled	-	-	
Date Tested	27/4/10	27/4/10	
Sample Identification	TP27 – Sample #63152 (0.3m – 0.5m) – Sampled 8/4/10	DP09 – Sample #63155 (0.3m – 0.6m) – Sampled 8/4/10	
Laboratory Specimen Description	(Cl) Sandy CLAY, medium plasticity, brown, approx. 45% fine to coarse sand, trace of fine gravel.	(Cl) Sandy CLAY, medium plasticity, brown, approx. 40% fine to coarse sand, trace of fine gravel.	

TEST RESULTS

Laboratory Compaction & Moisture Content - Test Methods AS1289 5.1.1 and AS1289 2.1.1

Maximum Dry Density t/m^3	1.63	1.64	
Optimum Moisture Content %	21.0	19.0	
Field Moisture Content %	15.0	14.5	

California Bearing Ratio - Test Method AS1289 6.1.1

CBR TEST	Dry Density t/m^3	Before Soaking	**1.55**	**1.56**	
		After Soaking	**1.55**	**1.56**	
	Density Ratio %	Before Soaking	**95.0**	**95.0**	
		After Soaking	**95.0**	**95.0**	
	Moisture Content %	Before Soaking	**21.0**	**19.0**	
		After Soaking	**25.0**	**25.0**	
	Number of Days Soaked		**4**	**4**	
	Surcharge kg		**4.5**	**4.5**	
	Moisture Content After Test %	Top 30mm	**24.0**	**26.5**	
		Whole Sample	**24.5**	**24.5**	
	Swell After Soaking %		**0.15**	**0.23**	
	CBR Value %		**4 @ 5.0mm**	**2 @ 2.5mm**	

Remarks: The results contained in this report relate only to the sample(s) submitted for testing.

Golder Associates accepts no responsibility for the representivity of the sample submitted.

Adelaide Laboratory – **Accredited Laboratory No. 1961**

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121006

Approved Signatory: _____

Ben Wessling
Senior Technical Officer

Appendix F

Asbestos analysis report

Parsons Brinckerhoff Australia Pty Limited

ABN 80 078 004 798

Level 16
1 King William Street
ADELAIDE SA 5000
GPO Box 398
ADELAIDE SA 5001
Australia
Telephone +61 8 8405 4300
Facsimile +61 8 8405 4301
Email adelaide@pb.com.au

Certified to ISO 9001; ISO 14001; AS/NZS 4801

Sample analysis report

Client:	Land Management Corporation
Location:	Former Hillcrest Hospital Site, Hilltop Drive, Hillcrest, SA
Job/Report No:	2160919A-200
Your Ref No:	TBA
Date:	21 April 2010
Test Method:	Qualitative identification of asbestos types in bulk samples by Stereo Microscopy

RESULTS

Laboratory ID No:	10/068
Sample:	001
Description:	Mud coated, grey fibrous cement fragment
Location:	Surface stockpile adjacent to former Ward 3 building, fibrous cement pipe debris
Report:	Chrysotile asbestos detected by Stereo Microscopy
Laboratory ID No:	10/069
Sample:	002
Description:	Mud coated, green vinyl fragment
Location:	Test-pit 25, vinyl tile fragment debris
Report:	No asbestos detected by Stereo Microscopy
Laboratory ID No:	10/070
Sample:	003
Description:	White fibrous plaster clump
Location:	Test-pit 28, fibrous plaster clump
Report:	No asbestos detected by Stereo Microscopy
Laboratory ID No:	10/071
Sample:	004
Description:	Blue vinyl tile fragment
Location:	Delineation-pit 2, vinyl tile fragment
Report:	Chrysotile asbestos detected by Stereo Microscopy

The presence of asbestos must be determined visually, as there is no instrument currently available for the purpose. The consequence of this is that asbestos which cannot be seen will not be found.

Testing Officer: Anthony Amorosi
Parsons Brinckerhoff Australia Pty Ltd