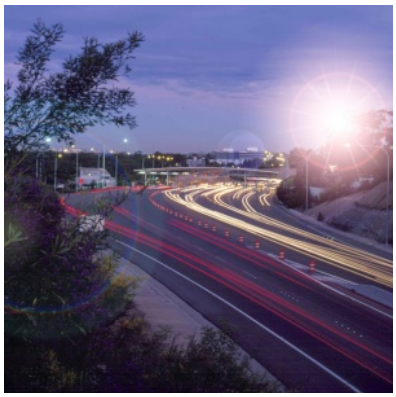
ENSR | AECOM

Prepared for:

Goodman International Limited

Level 10, 60 Castlereagh Street
Sydney NSW 2000


Limited Scope Stage 2 Environmental Site Assessment

Lot 2, Oakdale Concept Plan Kemps Creek / Horsley Park, NSW

Final

ENSR Australia Pty Ltd (HLA ENSR)

13 December 2007

Document No.: S4074204_RPTFinalRev01_13Dec07.doc

HLA Merged with ENSR in 2007

DISTRIBUTION

Limited Scope Stage 2 Environmental Site Assessment
Oakdale Concept Plan
Kemps Creek / Horsley Park, NSW

13 December 2007

Copies	Recipient	Original	Recipient
1 (soft)	**Phil Jones** **Project Planner** **Goodman International Limited** L10, 60 Castlereagh Street Sydney NSW 2000	1	**HLA ENSR** **Project File**
1	**HLA ENSR** Library		

By
HLA ENSR
ABN: 34 060 204 702
Level 5, 828 Pacific Highway Gordon
PO Box 726 Pymble NSW 2073 Australia

Alex Latham
Associate Environmental Scientist

Peer Review:	**Date:**
	13.12.07
Paul McCabe **Principal Environmental Scientist**	

"This page has been left blank intentionally"

CONTENTS

Tables

Figure

Appendices

Limitations

This document was prepared for the use of Goodman International Limited, The Austral Brick Company Pty Limited and the regulatory agencies that are directly involved in this project, the only intended beneficiaries of our work. Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current to the date of this document. Any other party should satisfy themselves that the scope of work conducted and reported herein meets their specific needs before relying on this document. HLA ENSR cannot be held liable for third party reliance on this document, as HLA ENSR is not aware of the specific needs of the third party.

This document was prepared for the purpose described in our proposal dated 7 June 2007. From a technical perspective, the subsurface environment at any site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water and chemical movement. Uncertainties may also affect source characterisation assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects, and remedial action performance.

HLA ENSR's professional opinions are based upon its professional judgement, experience, and training. It is possible that testing and analysis might produce different results and/or different opinions. HLA has limited its investigation to the scope agreed upon with its client. HLA ENSR believes that its opinions are reasonably supported by the reviews and analysis that have been done, and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. That standard of care may change and new methods and practices of exploration, testing, analysis and remediation may develop in the future, which might produce different results. HLA ENSR's professional opinions contained in this document are subject to modification if additional information is obtained, through further investigation, observations, or validation testing and analysis during remedial activities.

"This page has been left blank intentionally"

Executive Summary

ENSR Australia Pty Limited (HLA ENSR) was engaged by Goodman International Limited (Goodman) to undertake a limited scope Stage 2 Environmental Site Assessment (ESA) of a portion of the proposed Oakdale Concept Plan, located in Kemps Creek and Horsley Park, NSW. The investigation follows a Phase I review of the site by HLA ENSR (Ref: S4074201_RPTFinalRev02_13Dec07).

Goodman is proposing to develop a 421 hectare portion of the Western Sydney Employment Hub for industrial/commercial purposes. The development, referred to as Oakdale Concept Plan, comprises Lots 1 and 2 in DP 120673, Lots 82 and 87 in DP 752041 and Lot 1 in DP 843901. The land is owned by The Austral Brick Company Pty Limited (Austral).

This ESA was undertaken on Lot 2 in DP 120673 (the Site), to assess the suitability of the Site for commercial/industrial land-use.

The Site comprises approximately 60 hectares of land, which is currently used for rural activities (grazing), and appears to have been used for rural (pastoral) purposes since the early to mid 1800s.

To achieve the objective, the following the scope of work was undertaken:

- Review Site background/history information to evaluate the potential for contamination to be present;
- Completion of an intrusive soil investigation, comprising 25 exploratory test pits;
- Collection of soil samples, and subsequent analysis by commercial laboratories to evaluate concentrations of contaminants of potential concern (COPC). The COPC were based on the data obtained from the background/history information, as was the sample location rationale;
- Comparison of the soil analysis results to assessment criteria endorsed in the NSW DEC (2006) *Guidelines for the NSW Site Auditor Scheme*.

The investigation identified clay soils overlying shale bedrock. No soil fill materials or groundwater under aquifer conditions were identified at the test pit locations completed.

The Site has been assessed generally following the guidelines endorsed by NSW DECC. Based on the data obtained, no significant contamination was identified on the Site in the media tested, and as such, the Site is considered suitable for the proposed commercial/industrial land-use. The data also suggests that soils requiring excavation during future construction activities could be beneficially re-used at either the Site, or other parts of Oakdale.

Whilst HLA ENSR has completed this ESA in substantial agreement with NSW DECC guidelines, that are statistically based, it is noted that unidentified contamination or sub-surface structures may remain present. No liability is accepted for any unidentified contamination or sub-surface structures subsequently found to be present at the Site.

It is recommended that a construction phase environmental management plan (EMP) should be prepared and adhered to. The EMP should provide guidance on appropriate measures to be adopted in the event that unusual ground conditions are encountered during Site development.

"This page has been left blank intentionally"

1.0 INTRODUCTION

ENSR Australia Pty Ltd (HLA ENSR[1]) was engaged by Goodman International Limited (Goodman) to undertake a limited scope Stage 2 Environmental Site Assessment (ESA) of a portion of a proposed commercial/industrial development, located in Kemps Creek and Horsley Park, NSW. The investigation follows a Phase I review of the site by HLA ENSR (Ref: S4074201_RPTFinalRev02_13Dec07).

Goodman is proposing to develop a 421 hectare portion of the Western Sydney Employment Hub for industrial/commercial purposes. The proposed development, referred to as Oakdale Concept Plan, comprises Lots 1 and 2 in DP 120673, Lots 82 and 87 in DP 752041 and Lot 1 in DP 843901. The land is owned by The Austral Brick Company Pty Limited (Austral).

This ESA was undertaken on Lot 2 in DP 120673 (the Site). Site detail is shown on Figure 1.

The Site comprises approximately 60 hectares of land, which is currently used for rural activities (grazing). The Site is zoned 'Non Urban Residential 1(a)' and is located in the Fairfield City Council local government area. Copies of Site survey and development concept plans are included in Appendix A.

1.1 Data Quality Objectives

To ensure that data of adequate types and reliability were collected and assessed for the ESA, the seven-step Data Quality Objective (DQO) approach, endorsed in NSW DEC (2006), has been adopted. The DQOs have set quality assurance and quality control parameters for the field and laboratory programs to ensure data of appropriate reliability have been used to assess the environmental condition of the Site.

The DQOs for this ESA are presented in Appendix B. Attainment of the DQOs has been assessed by reference to the data quality indicators (DQIs), also presented in Appendix B.

1.2 Objective

The objective of the ESA was to assess the Site suitability, from a land contamination perspective, for the proposed commercial/industrial land use (i.e. warehouses and distribution), to support the development application.

1.3 Scope of Work

To achieve the objective, a review of the history of use of the Site, the development and implementation of a field sampling, analysis and quality program, and the preparation of this ESA report were undertaken.

In summary, the following scope of work was undertaken:

- Review of the Phase I ESA report completed by HLA ENSR (refer document: S4074201_RPTFinalRev02_13Dec07);
- Development of a conceptual model of contamination at the Site based on the results of the Phase I ESA;

[1] A subsidiary of ENSR Corporation, an AECOM company.

- Development of a sampling, analysis and quality plan (SAQP) to assess the nature and extent of contamination at the Site;
- Completion of 25 exploratory test pits (TP01 to TP25) across the Site and collection of soil samples from each test pit location;
- Laboratory analysis of soil samples by commercial analytical laboratories using methods registered by the National Association of Testing Authorities (NATA); and
- Preparation of this report discussing the methodologies used, the results of the investigation and providing conclusions regarding the suitability of the Site for the proposed land use.

Investigative work was conducted with reference to relevant parts of the following guidelines:

- *Guidelines for the NSW Site Auditor Scheme, 2nd Edition* (NSW DEC[2], 2006): provided the soil assessment criteria and were used to apply the NSW EPA decision processes for assessing redevelopment of urban sites;
- *Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA[2], 1997): followed throughout the investigation and during preparation of this report;
- *Sampling Design Guidelines (NSW EPA, 1995):* followed during design of the sampling and analysis plan and determination of data quality objectives (DQOs);
- Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report (NSW EPA, 1999): used to determine potential significant risk of harm issues associated with the site;
- National Environmental Protection (Assessment of Site Contamination) Measure (NEPC 1999): was considered throughout the entire investigation;
- *Guidelines for the Laboratory Analysis of Contaminated Soils (NEPM Schedule B(3)):* were used to ensure laboratory analysis of samples obtained from the site was undertaken using appropriate methods to acceptable levels of accuracy and precision; and
- *Managing Land Contamination, Planning Guidelines, SEPP 55-Remediation of Land* (NSW Department of Planning, 1998): were considered throughout the entire investigation.

[2] Now part of the NSW Department of Environment and Climate Change (DECC)

2.0 Site Identification

Item	Description
Site Owner	The Austral Brick Company Pty Ltd
Lot and DP Number	Lot 2, DP 120673
Site Address[1]	400-564 Burley Road, Horsley Park
County / Parish	Cumberland / Melville
Local Government Authority	Fairfield City Council
Current Zoning[1]	Non Urban Residential 1(a)
Distance from Sydney CBD	Approximately 35 km west
Site Area[1]	62.3 ha
Site Layout	Refer to Figure 1

Note: 1 - As referenced from Phase I ESA report.

A copy of a site survey plan completed by Hard and Forester (Consulting Surveyors) in June 2007 is included in Appendix A.

ndix A also includes a copy of the masterplan and base site plan, which show the proposed development, site topography, riparian zones and 1 in 100 flood zones.

"This page has been left blank intentionally"

3.0 Previous Contamination Investigations

3.1 Phase I ESA

3.1.1 Scope of Work

HLA ENSR completed a Phase I ESA of the proposed Oakdale Distribution Park in June 2007, and which was revised in December 2007. With respect to the Lot 2, the Phase I ESA included the following work:

- Review of Section 149 Planning Certificate;
- Review of Land Title Office records to evaluate previous site owners and possible land use;
- Review of Department of Lands historical aerial photographs to evaluate changes in land use over time;
- Review of Department of Natural Resources database for registered groundwater bores in the site's vicinity, to evaluate expected hydrogeological conditions;
- Review of published information to evaluate expected sub-surface (soil and geology) conditions at the site;
- Review of the DECC website, to assess if the subject site or nearby properties were listed under the Contaminated Land Management Act;
- Review of WorkCover NSW historical records for the storage of dangerous goods;
- Site inspection with Austral personnel, including a limited evaluation of surrounding properties
- Preparation of this report detailing the methodologies used during the investigation, results of the reviews and HLA ENSR's conclusions regarding the site's potential contamination status.

The results of the Phase I, with respect to Lot 2, are summarised in the following sections.

3.1.2 Site History

Based on the information reviewed, the Site appears to have been utilised for rural purposes since the early to mid 1800s. No obviously significantly contaminating activities were considered to have occurred, although HLA ENSR considered there was a possibility that localised zones of contamination may be present. Identified areas of potential environmental concern included:

- "Enviro-soil[3]" has been applied to the eastern and western portions of Lot 2 (not near the riparian zones). Enviro-soil was sourced from Sydney Water Corporation, and was reportedly applied in both liquid and 'cake' form. Enviro-soil was typically applied as a thin layer and subsequently ploughed into the ground to an approximate depth of 80 mm. Application of enviro-soil reportedly ceased approximately five years ago; and

[3] Recycled waste from sewage treatment plants, used as a fertiliser.

- Large embankments or visual bunds were present along the southern, eastern and northern (partially) boundary areas of Lot 2. The bunds were approximately 6 m high and 20 m wide and appeared to comprise clay soils with inclusions of shale, sandstone, concrete, blue metal gravel and crushed brick. The embankments are understood to comprises virgin natural excavated materials (VENM), reportedly sourced from another Austral site; and
- Spraying of herbicides to control weeds (e.g. thistles, blackberries, small trees and other woody weeds) is undertaken on an 'as needs basis'. Spraying is typically targeted to the area of infestation (i.e. spot applications).

3.1.3 Site Conditions

At the time of this ESA, the Site was primarily utilised for grazing activities. Land use surrounding the site included:

- North: water supply pipeline, then rural-type lands, some of which were undergoing redevelopment;
- East and South: Austral Bricks facility to the east and south; and
- West: Austral land (i.e. Oakdale).

The Site slopes gently down to the west, toward Ropes Creek, which marks the western boundary of the Site. A smaller creek is located in approximately the centre of Lot 2, and localised topography slopes toward this drainage feature.

Two dams (settlement ponds) are located in the northern portion of Lot 2 and are associated with the Austral facility to the east. HLA ENSR understands that these ponds receive excess surface water from the adjacent Austral site. Water from the ponds may be periodically pumped over the adjacent paddock.

The Site, based on reviews of published information, was expected to be underlain by clay based fluvial soils in the near vicinity of Ropes Creek, and clay based residual soils over the remainder of the Site. Shale bedrock was expected to be present.

No registered groundwater bores were located within a one kilometre radius of the Site. Groundwater under aquifer conditions was considered likely to occur within sedimentary bedrock at depths generally greater than 20 m below ground surface. Seasonal shallow groundwater may exist at the Site, generally at the interface between clay soils and shale bedrock. Shallow groundwater is also likely present in alluvial soils along the drainage lines. Based on local topography, shallow groundwater flow is expected to follow site topography.

3.2 VENM Documentation

HLA ENSR reviewed letter reports prepared by various consultants, and supplied by Austral, regarding visual inspection of soil materials that were reportedly imported to the Site for use in constructing the visual bunds. A table summarising this documentation is provided in Appendix B.

Review of the letter reports indicated the following:

- Soil and bedrock materials were sourced from 22 properties located within the Sydney metropolitan area;
- Materials were reported to typically comprise silty and sandy clays, shale, siltstone and sandstone bedrock;
- All 'source' sites were inspected by the consultants, and soil descriptions were provided;

- At some of the 'source' sites, fill materials were observed. Where observed, the documentation indicated that the fill materials were to be removed and disposed elsewhere (i.e. not at the subject Site);
- At some of the 'source' sites, demolition of buildings was in progress at the time of the inspections; and
- Documentation supplied by Austral to date, does not confirm receipt of the VENM from the source sites.

Based on the 'face-value' of the documentation reviewed, HLA ENSR considers that the visual bunds comprise VENM materials. However, HLA ENSR also considers that relatively minor amounts of construction debris (e.g. concrete, blue metal gravel and crushed brick) and possibly fill materials have been incorporated into the bunds, as noted during limited inspection of the bunds.

"This page has been left blank intentionally"

4.0 Areas of Potential Environmental Concern

Based on the Phase I ESA information, identified areas of potential environmental concern (AEC) were considered to include:

- Portions of Lot 2 where application of enviro-soil had occurred;
- Visual bunds. Anecdotal information indicated that the material is VENM however, inclusions of shale, sandstone, concrete and blue metal gravel were noted; and
- Water from the settlement ponds may have been periodically pumped over the parts of Lot 2.

HLA ENSR notes that:

- Whilst enviro-soil has been applied to pasture lands at the Site, the application (after tilling) has reportedly only occurred to shallow depth;
- Potential impacts, if any, associated with the pumping of settlement pond waters could be expected to be of limited vertical extent; and
- No obvious indications of contamination to surface soils in the vicinity of the visual bunds were observed. It is also noted that review of documentation provided by Austral indicates that the bunds are predominantly VENM, sourced from various Sydney metropolitan sites.

"This page has been left blank intentionally"

5.0 Contaminants of Potential Concern

Contaminants of potential concern (COPC) related to the AEC are based on the NSW EPA (1994 and 1995) Guidelines and on HLA ENSR's professional knowledge and are considered to include:

- Suite of heavy metals, principally arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), copper (Cu), manganese (Mn), mercury (Hg), nickel (Ni), lead (Pb) and zinc (Zn): potentially associated with enviro-soil and settlement pond water;
- Total petroleum hydrocarbons (TPH): potentially associated with enviro-soil;
- Polycyclic aromatic hydrocarbons (PAH): potentially associated with enviro-soil;
- Organochlorine pesticides (OCP): potentially associated with enviro-soil and to a lesser extent, with previous rural activities;
- Organophosphorus pesticides (OPP): as for OCP; and
- Phenoxy Acid Herbicides: associated with weed control.

"This page has been left blank intentionally"

6.0 Sampling and Analysis Plan and Sampling Methodology

HLA ENSR's field methods were undertaken in accordance with the relevant NSW EPA/DEC and NEPM guidelines, and HLA ENSR's contaminated site investigation manual. The Sampling, Analytical and Quality Plan (SAQP) was generated as the outcome of the seven-step DQO process, as described in Appendix B.

The Site is approximately 60 hectares, for which the NSW EPA (1995) Guidelines provide no guidance on the minimum of sample locations required for site characterisation. HLA ENSR completed 25 sample locations, on both a grid and targeted basis. The adopted sampling density is considered to be appropriate for characterising the Site, given the low potential for significantly contaminating activities to have occurred and the generally consistent condition of the Site (i.e. open pasture land).

In total, soil samples collected from 25 test pit locations were submitted for laboratory testing. The laboratory testing program entailed analysis of 37 primary soil samples, including:

- 25 samples of surface and near surface, clayey silt topsoil material, where contamination (if any) was considered likely to be present; and
- 12 samples of underlying clay soil.

Based on the sampling density completed and subsequent laboratory testing program (refer Table 1), HLA ENSR considers that the investigation of the Site is suitable to assess suitability for commercial/industrial land-use.

The soil sampling program was undertaken on 13 and 14 June 2007. Soil sampling techniques followed HLA ENSR's specific written standard field and quality assurance/control procedures and were undertaken with reference to the relevant guidelines endorsed by NSW DEC.

The soil assessment methodology is described in the table below:

Activity	Details
Exploratory Test Pits	Soil sampling was undertaken from the exposed soil profile in the test pit wall and from materials that were in the backhoe bucket. When sampling from the bucket (i.e. generally samples from 1.0 m bgs), care was taken to collect soil from the relatively undisturbed bulk of material within the bucket, and not from material that had been in contact with the bucket sides.
Soil logging	Soil logging was undertaken in general accordance with the Unified Soil Classification System and the HLA ENSR documented standard field procedures. Samples were logged and information was recorded in the field (e.g. soil/rock type, colour, grain size, inclusions, moisture conditions, staining and odour etc).
QC samples	Duplicate samples were collected at an approximate rate of 1 per 10 primary samples, according to the Data Quality Indicators provided in Appendix B.
Field Screening	Duplicate soil sub-samples were placed in snap-lock plastic bags and the vapour headspace screened in the field for volatile organic compounds (VOCs) using a calibrated Photoionisation Detector (PID) with a 10.2 eV lamp. Calibration details are provided in Appendix B.

Based on field observations and screening, soil samples were submitted for analysis to evaluate concentrations of the identified COPC (refer Section 5). The project sample analysis program (including QA samples) and rationale is presented on Table 1.

"This page has been left blank intentionally"

7.0 Quality Assurance and Quality Control (QA/QC)

7.1 QA/QC Data Validation

The QA/QC program implemented as part of the ESA was generated as the outcome of the seven-step DQO process, as described in Appendix B.

The achievement of the project DQOs was demonstrated by reference to the Data Quality Indicators (DQIs) which include, precision, accuracy, representativeness, completeness and comparability. Details of the QA/QC data validation are presented in Appendix B.

7.2 Data Useability

The assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the conditions at the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the ESA.

"This page has been left blank intentionally"

8.0 Site Assessment Criteria

The current assessment criteria endorsed by NSW DEC to evaluate soil analytical results are based on the following guidelines:

- NSW EPA, 1994. Guidelines for Assessing Service Station Sites;
- NSW DEC, 2006. Guidelines for the NSW Site Auditor Scheme (2nd Edition); and
- NEPC, 1999. National Environment Protection (Assessment of Site Contamination) Measure.

The guidelines to which soil analytical results are compared with in NSW present a range of Health-Based Soil Investigation Levels (SILs), provisional Phytotoxicity-Based Investigation Levels (PILs), Ecological Investigation Levels (EILs), sensitive land use thresholds and expected background concentration ranges for urban redevelopment sites in NSW. Application of these guidelines is briefly described below.

SILs

The SILs described in the NSW DEC (2006) and NEPC (1999) are based on the National Environmental Health Forum (NEHF) levels devised by Imray and Langley (1996). A series of statistically based guideline levels are provided for various substances for the protection of human health based on four specific land use and exposure scenarios including:

SIL_1	Residential with gardens and accessible soil (home-grown produce contributing less than 10% fruit and vegetable intake; no poultry), including children's day care centres, preschools and primary schools, or town houses or villas
SIL_2	Residential with minimal access to soil access, includes dwellings with fully and permanently paved yard space such as high-rise apartments and flats
SIL_3	Parks, recreational open space, playing fields including secondary schools
SIL_4	Commercial or industrial

For the assessment of petroleum hydrocarbon contamination, NSW DEC (2006) refer to the use of the *Guidelines for Assessing Service Station Sites* (NSW EPA, 1994), which contain threshold concentrations for petroleum contaminants in soil and provide for the protection of human and environmental health assuming a sensitive land use.

The NSW DEC (2006) assessment process also stipulates that the impact of contaminants on ground and surface water, potential degradation of building structures and affects of chemical mixtures need to be considered and that SILs may not be appropriate for the protection of groundwater, surface water or all potential environmental concerns, such as the protection of wildlife.

PBILs & EILs

The PBILs (NSW DEC, 2006) and EILs (NEPC 1999), which are equivalent, relate to the protection of plants, and are designed to be applied as single number criteria indicative of environmental effect. Their use has significant limitations since phytotoxicity depends on soil properties and the species of plants, and are intended to be applied as a screening guide only. The "Decision-making Process" listed in NSW DEC (2006) for assessing urban redevelopment sites relate to sandy loams with a pH 6 to 8 and

stipulates that the PBILs need to be considered on sites used for residential purposes, parks, recreational open space and schools. PBILs are therefore not applicable to this ESA.

Site Assessment Criteria (SAC)

Given that the Site may be developed for commercial/industrial land-use, the soil analytical results are compared to the following SAC:

- NSW EPA (1994) guidelines: for TPH; and
- NSW DEC (2006) SIL_4 criteria: for metals, PAH and OCP.

There are no numerical criteria for OPP or phenoxy acid herbicides in soil endorsed by NSW DEC.

The soil assessment criteria (or SAC) adopted for this ESA, and the soil analytical results obtained are presented in Table 2.

9.0 Subsurface Investigation Results

9.1 Site Stratigraphic Conditions

9.1.1 Fill Materials

No fill materials were identified in the test pits completed at the Site.

The visual bunds, based on documentation reviewed by HLA ENSR, appear to comprise VENM material. HLA ENSR notes that, based on the reviewed documentation and site inspection observations, minor amounts of construction debris and possibly fill material is incorporated into the bunds. Based on Goodman's instruction, intrusive investigation and sample analysis of this material has not been undertaken to date.

The visual bund materials appear to be suitable to be retained on site, although further investigation is recommended to confirm this. Alternatively, future management of the bund material should be documented in a construction phase environmental management plan (EMP).

9.1.2 Natural soil and bedrock

Natural soils were clay based. Weathered shale bedrock was encountered at approximately one metre depth in test pit TP13. Fragments of weathered shale were encountered in clay soils at all test pit locations completed.

Saturated soils and groundwater under aquifer conditions was not encountered in the test pits completed (to a maximum depth of 1.05 m).

Logs describing the subsurface soil profile encountered during the ESA are included in Appendix D. The test pit locations are shown on Figure 2.

9.1.3 VOC Screening

Concentrations of volatile organic compounds (VOCs) in soil sub-samples were measured in the field using a calibrated PID, as a means of screening for potentially contaminated soils.

Concentrations of VOCs ranged from 0 to 1 parts per million (ppm). Concentrations are regarded to fall within typical background ranges, as the levels recorded were typical of Sites that HLA ENSR have investigated that were not contaminated.

No unusual odours were observed in Site soils.

9.2 Analytical Results

The results of the laboratory analysis of soils are compared against the adopted SAC in Table 2. Laboratory analytical reports are provided in Appendix D.

TPH

Concentrations of TPH for all soil samples analysed were less than the SAC.

Heavy Metals

Concentrations of metals (As, Ba, Cd, Cr, Cu, Mn, Ni, Pb, Zn and Hg) for all soil samples analysed were less than the SAC.

PAH

Concentrations of PAH for all soil samples analysed were less than the laboratory EQL, and therefore below the SAC.

OCP

Concentrations of OCP for all soil samples analysed were the laboratory EQL, and therefore below the SAC.

OPP

Concentrations of OCP for all soil samples analysed were the laboratory EQL.

Phenoxy Acid Herbicides

Concentrations of phenoxy acid herbicides for all soil samples analysed were the laboratory EQL.

10.0 Site Characterisation

10.1 Soil Impact

The results of this ESA did not identify concentrations of COPC above NSW DEC SIL_4 or NSW EPA (1994) assessment criteria.

10.2 Aesthetic Impact

No unusual odours or soil staining were observed at the sample locations completed. The Site is not considered to pose an unacceptable aesthetic issue.

10.3 Conceptual Site Model

Based on the data collected for this ESA, the Conceptual Site Model is summarised below.

The Site appears to have been used for rural (grazing) activities from the 1800s. No significant potentially contaminating activities are likely to have occurred. However, there is a potential for surface and near surface soils to have been affected through the application of recycled sewage treatment plant waste (i.e. enviro-soil), periodic spraying of settlement pond water on the land and through spot applications of herbicides.

The clay-based soil would likely limit the potential for any contaminants to vertically migrate. To assess this, samples of sub-surface soils were collected and analysed. Similarly, based on the information reviewed, HLA ENSR concludes that groundwater under aquifer conditions beneath the Site is unlikely to have been affected by historic or current Site activities.

The soil sampling and analysis program targeted surface/near surface and underlying soils, and no contamination was identified at the locations tested.

"This page has been left blank intentionally"

11.0 Conclusions and Recommendations

The Site has been assessed generally following the guidelines endorsed by NSW DEC. Based on the data obtained, no significant contamination was identified on the Site in the media tested, and as such, the Site is considered suitable for the proposed commercial/industrial land-use. The data also suggests that soils requiring excavation during future construction activities could be beneficially re-used at either the Site, or other parts of Oakdale.

Whilst HLA ENSR has completed this ESA in substantial agreement with NSW DEC guidelines, that are statistically based, it is noted that unidentified contamination or sub-surface structures may remain present. No liability is accepted for any unidentified contamination or sub-surface structures subsequently found to be present at the Site.

It is recommended that a construction phase environmental management plan (EMP) should be prepared and adhered to. The EMP should provide guidance on appropriate measures to be adopted in the event that unusual ground conditions are encountered during Site development.

"This page has been left blank intentionally"

12.0 References

Department of Urban Affairs and Planning (DUAP) 1998, *Managing Land Contamination, Planning Guidelines, SEPP 55-Remediation of Land.* (NB: DUAP is now part of NSW Department of Planning).

HLA-Envirosciences Pty Ltd, 2007. *Phase I Environmental Site Assessment, Oakdale Distribution Park, Kemps Creek / Horsley Park, NSW.* (Document Ref: S4074201_RPTFinalRev01_22Jun07).

HLA ENSR, 2007. *Phase I Environmental Site Assessment, Oakdale Distribution Park, Kemps Creek / Horsley Park, NSW.* (Document Ref: S4074201_RPTFinalRev02_13Dec07).

Imray P & Langley A, 1996. *Health-based Soil Investigation Levels, National Environmental Health Forum Monographs, Soil Series No. 1*, South Australian Health Commission, Adelaide.

National Environment Protection Council (NEPC) 1999. *National Environmental Protection Measure (Assessment of Site Contamination)*.

NSW Department of Environment and Conservation (DEC) 2006. *Guidelines for the NSW Site Auditor Scheme (2nd Edition)* April 2006.

NSW Environment Protection Authority (EPA) 1994. *Guidelines for Assessing Service Station Sites,* December 1994.

NSW EPA 1995. *Sampling Design Guidelines*, September 1995.

NSW EPA 1997. *Guidelines for Consultants Reporting on Contaminated Sites*, November 1997.

NSW EPA 1999. *Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report,* April 1999.

"This page has been left blank intentionally"

Glossary of Abbreviations and Acronyms

General Terms	
ACM	Asbestos containing material(s)
ANZECC	Australian and New Zealand Environment and Conservation Council
AHD	Australian Height Datum
BaP	Benzo(a)pyrene (a PAH)
BTEX	Benzene, toluene, ethylbenzene and xylenes
DEC	NSW Department of Environment and Conservation
DQOs	Data Quality Objectives
DQIs	Data Quality Indicators
EPA	New South Wales Environment Protection Authority
EQL	Estimated Quantitation Limit (also known as Practical Quantitation Limit or PQL)
Heavy metals	Generally, arsenic (a metalloid), cadmium, chromium, copper, mercury, nickel, lead and zinc
LOR	Level of reporting
NEHF	National Environmental Health Forum
NEPC	National Environment Protect Council
NEPM	National Environmental Protection Measure
NSW EPA	New South Wales Environment Protection Authority
OCP	Organochlorine pesticides
OPP	Organophosphate pesticides
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated biphenyls
PID	Photoionisation detector
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SAQP	Sampling, Analytical ad Quality Plan
TPH	Total petroleum hydrocarbons
UCL	Upper Confidence Limit (on mean)
USEPA	United States Environment Protection Agency
VOC	Volatile Organic Compound

"This page has been left blank intentionally"

Tables

"This page has been left blank intentionally"

Table 1 - Sample Analysis Summary, Oakdale (Lot 2)

Sample Location and Depth (m bgs)	Sample Type	PID (ppm)	Rationale	Analyses					
				TPH C10-C36	Metals	PAH	OCP	OPP	Phenoxy Acid Herbicides
TP01_0.1-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	1
TP01_0.5-0.6	Clay	0.4	Assess vertical distribution		1				
TP02_0.1-0.2	Clayey Silt	0.5	Broad grid	1	1	1	1	1	
TP02_0.5-0.6	Clay	0.4	Assess vertical distribution		1				
TP03_0.0-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	
TP03_0.4-0.6	Clay	0.5	Assess vertical distribution		1				
TP04_0.0-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	1
TP05_0.0-0.2	Clayey Silt	0.5	Broad grid	1	1	1	1	1	
TP06_0.0-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	1
TP06_0.4-0.6	Clay	0.2	Assess vertical distribution		1				
TP07_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	1
TP08_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	
TP08_0.4-0.6	Clay	0.4	Assess vertical distribution		1				
TP09_0.0-0.2	Clayey Silt	0.5	Broad grid	1	1	1	1	1	
TP10_0.0-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	1
TP10_0.4-0.6	Clay	0.5	Assess vertical distribution		1				
TP11_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	
TP11_0.4-0.6	Clay	0.4	Assess vertical distribution		1				
TP12_0.0-0.2	Clayey Silt	0.2	Broad grid	1	1	1	1	1	1
TP13_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	
TP14_0.0-0.2	Clayey Silt	0.5	Broad grid	1	1	1	1	1	
TP14_0.4-0.6	Clay	0.6	Assess vertical distribution		1				
TP15_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	
TP16_0.0-0.2	Clayey Silt	0.2	Broad grid	1	1	1	1	1	
TP16_0.4-0.6	Clay	0.3	Assess vertical distribution		1				
TP17_0.0-0.2	Clayey Silt	0.6	Broad grid	1	1	1	1	1	
TP18_0.0-0.2	Clayey Silt	0.2	Broad grid	1	1	1	1	1	1
TP19_0.0-0.2	Clayey Silt	0.4	Broad grid	1	1	1	1	1	
TP20_0.0-0.2	Clayey Silt	0.2	Broad grid	1	1	1	1	1	1
TP21_0.0-0.2	Clayey Silt	0.3	Broad grid	1	1	1	1	1	
TP21_0.4-0.6	Clay	0.3	Assess vertical distribution		1				
TP22_0.0-0.2	Clayey Silt	0.6	Broad grid	1	1	1	1	1	
TP22_0.4-0.6	Clay	0.4	Assess vertical distribution		1				
TP23_0.0-0.2	Clayey Silt	0.6	Broad grid	1	1	1	1	1	
TP24_0.0-0.2	Clayey Silt	0.7	Broad grid	1	1	1	1	1	
TP24_0.4-0.6	Clay	0.5	Assess vertical distribution		1				
TP25_0.0-0.2	Clayey Silt	1.1	Broad grid	1	1	1	1	1	1
Sub Total - Primary Soil Samples				25	37	25	25	25	9
QC Soil Duplicates									
DUP01	Duplicate of TP04_0.0-0.2			1	1	1	1	1	1
DUP02	Duplicate of TP07_0.0-0.2			1	1	1	1	1	
DUP03	Inter-Laboratory Duplicate of TP13_0.0-0.2			1	1	1	1	1	
DUP05	Inter-Laboratory Duplicate of TP21_0.0-0.2				1				
DUP06	Duplicate of TP22_0.0-0.2				1				
DUP07	Duplicate of TP22_0.4-0.6				1				
Sub Total - Soil QC Duplicate Samples				3	6	3	3	3	1
Total - Soil Samples				**28**	**43**	**28**	**28**	**28**	**10**

Table 2 - Oakdale (Lot 2), Soil Sample Analytical Results

Group	Sample Location / Sample Depth (mbgs) / Date Sampled / Units	SAC mg/kg	TP01 0.1-0.2 13/6/07 mg/kg	TP01 0.5-0.6 13/6/07 mg/kg	TP02 0.1-0.2 13/6/07 mg/kg	TP02 0.5-0.6 13/6/07 mg/kg	TP03 0.0-0.2 13/6/07 mg/kg	TP03 0.4-0.6 13/6/07 mg/kg	TP04 0.0-0.2 13/6/07 mg/kg	TP05 0.0-0.2 13/6/07 mg/kg	TP06 0.0-0.2 13/6/07 mg/kg	TP06 0.4-0.6 13/6/07 mg/kg	TP07 0.0-0.2 13/6/07 mg/kg	TP08 0.0-0.2 13/6/07 mg/kg	TP08 0.4-0.6 13/6/07 mg/kg	TP09 0.0-0.2 13/6/07 mg/kg	TP10 0.0-0.2 13/6/07 mg/kg	TP10 0.4-0.6 13/6/07 mg/kg	TP11 0.0-0.2 13/6/07 mg/kg	TP11 0.4-0.6 13/6/07 mg/kg	TP12 0.0-0.2 13/6/07 mg/kg	TP13 0.0-0.2 13/6/07 mg/kg	TP14 0.0-0.2 13/6/07 mg/kg	TP14 0.4-0.6 13/6/07 mg/kg	TP15 0.0-0.2 13/6/07 mg/kg	TP16 0.0-0.2 13/6/07 mg/kg	TP16 0.4-0.6 13/6/07 mg/kg	TP17 0.0-0.2 13/6/07 mg/kg	TP18 0.0-0.2 13/6/07 mg/kg	TP19 0.0-0.2 13/6/07 mg/kg	TP20 0.0-0.2 13/6/07 mg/kg	TP21 0.0-0.2 14/6/07 mg/kg	TP21 0.4-0.6 14/6/07 mg/kg	TP22 0.0-0.2 14/6/07 mg/kg	TP22 0.4-0.6 14/6/07 mg/kg	TP23 0.0-0.2 14/6/07 mg/kg	TP24 0.0-0.2 14/6/07 mg/kg	TP24 0.4-0.6 14/6/07 mg/kg	TP25 0.0-0.2 14/6/07 mg/kg
TPH	C_{10} - C_{14}	-	<50	-	<50	-	<50	-	<50	<50	<50	-	<50	<50	-	<50	<50	-	<50	-	<50	<50	<50	-	<50	<50	-	<50	<50	<50	<50	<50	-	<50	-	<50	<50	-	<50
	C_{15} - C_{28}	-	<100	-	<100	-	<100	-	<100	<100	<100	-	<100	<100	-	<100	<100	-	<100	-	<100	<100	<100	-	<100	<100	-	<100	<100	<100	<100	<100	-	<100	-	<100	<100	-	<100
	C_{29} - C_{36}	-	<100	-	<100	-	<100	-	<100	<100	<100	-	<100	<100	-	<100	<100	-	<100	-	<100	<100	130	-	<100	110	-	<100	<100	<100	<100	<100	-	<100	-	<100	<100	-	<100
	Total C_{10}-C_{36}	1000	nc	-	nc	-	nc	-	nc	nc	nc	-	nc	nc	-	nc	nc	-	nc	-	nc	nc	130	-	nc	110	-	nc	nc	nc	nc	nc	-	nc	-	nc	nc	-	nc
PAH	Naphthalene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Acenaphthylene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Acenaphthene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Fluorene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Phenanthrene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Anthracene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Fluoranthene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Pyrene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Benz(a)anthracene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Chrysene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Benzo(b)&(k)fluoranthene	-	1	-	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	-	<1	-	<1	<1	-	<1
	Benzo(a) pyrene	5	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Indeno(1,2,3-c,d)pyrene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Dibenz(a,h)anthracene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Benzo(g,h,i)perylene	-	0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Sum of reported PAHs	100	nc	-	nc	-	nc	-	nc	nc	nc	-	nc	nc	-	nc	nc	-	nc	-	nc	nc	nc	-	nc	nc	-	nc	nc	nc	nc	nc	-	nc	-	nc	nc	-	nc
Metals	Arsenic	500	5	8	5	5	4	5	4	4	3	4	2	3	3	2	4	5	6	6	3	6	5	3	5	5	4	3	6	4	4	4	5	5	6	5	5	15	5
	Barium	-	87	110	220	140	63	160	90	110	88	130	61	100	35	37	150	210	170	260	96	79	360	190	140	160	370	59	180	150	400	85	55	99	67	78	110	23	130
	Cadmium	100	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.3	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chromium	600000	13	14	15	12	6	7	14	14	16	18	8	10	14	11	34	39	22	19	13	17	32	17	21	25	15	10	18	23	80	10	13	10	13	13	15	32	14
	Copper	5000	10	23	24	25	7	12	14	19	20	16	8	11	16	11	38	22	29	20	10	41	83	42	41	72	20	7	21	22	22	11	15	12	14	10	11	14	22
	Lead	1500	21	14	23	12	10	8	16	18	17	15	9	12	9	10	18	18	22	21	11	17	27	12	23	29	13	10	22	18	12	15	12	13	17	17	14	12	16
	Manganese	7500	1280	69	1350	57	280	24	920	1530	1030	190	540	1350	19	110	560	270	920	160	650	1040	570	51	1940	2100	120	410	1230	740	1410	970	120	1600	990	1700	1380	74	730
	Nickel	3000	5	5	10	9	2	2	7	11	7	7	4	6	5	3	11	13	11	16	7	9	14	16	14	14	11	3	8	13	35	7	6	6	7	8	5	3	7
	Zinc	35000	18	34	46	52	7	9	16	26	22	14	12	14	8	19	68	20	49	40	13	51	140	71	61	130	44	8	35	37	34	18	10	16	21	24	16	12	34
	Mercury	75	0.11	0.05	0.1	0.12	0.1	0.06	0.09	0.1	0.14	0.05	0.07	0.08	<0.05	0.09	0.22	<0.05	0.13	0.07	0.06	0.17	0.36	0.06	0.16	0.43	0.05	0.05	0.13	0.09	0.05	0.05	<0.05	0.05	<0.05	0.06	0.06	<0.05	0.08
OCP	alpha-BHC	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Hexachlorobenzene (HCB)	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	beta-BHC	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	gamma-BHC	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	delta-BHC	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Heptachlor	50	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Aldrin	50	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Dieldrin		<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Heptachlor epoxide	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	trans-Chlordane	250	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	cis-Chlordane		<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Endosulfan I	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	4.4'-DDE		<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	4.4'-DDD	1000	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	4.4'-DDT		<0.2	-	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	-	<0.2
	Endrin	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Endosulfan II	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Endosulfan sulfate	-	<0.05	-	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	-	<0.05	<0.05	-	<0.05
	Methoxychlor	-	<0.2	-	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	-	<0.2
OPP	Dichlorvos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Mevinphos (Phosdrin)	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Demeton (total)	-	<1	-	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	<1	-	<1	-	<1	<1	<1	-	<1	<1	-	<1	<1	<1	<1	<1	-	<1	-	<1	<1	-	<1
	Ethoprop	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Monocrotophos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Phorate	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Dimethoate	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Diazinon	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Disulfoton	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Methyl parathion	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Ronnel	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Fenitrothion	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Malathion	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Chlorpyrifos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Fenthion	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Parathion	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Stirofos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Prothiofos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Azinophos methyl	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
	Coumaphos	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5
Phenoxy Acetic Acid Herbicides	Dalapon	18470	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	Clopyralid	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	o-Chlorophenoxy acid	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	p-Chlorophenoxy acid	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	Dicamba	18468	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	MCPP	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	MCPA	307	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	Dichlorprop	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	2,4-D	7683	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	Triclopyr	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	2,4,5-TP (Silvex)	4924	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	MCPB	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	2,4,5-T	6156	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	Fluxopyr	-	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1
	2,4-DB	4924	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	-	-	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1

Notes:
mg/kg = milligrams per kilogram.
(mbgs) = metres below ground surface
nc = not calculated (result/s < EQL)
< # = analyte not detected above laboratory EQL
Site Assessment Criteria (SAC):
TPH = NSW EPA (1994) Guidelines
Metals, PAH, OCP = NSW DEC (2006) Guidelines
Herbicides = USEPA Region 9, Industrial Land Use (not endorsed by NSW DEC)
- = Not analysed and/or no assessment criteria

Table 3 - Oakdale (Lot 2), Field and Laboratory QA Duplicate Sample Results

	Sample ID	SAC	DUP01	TP04_0.0-0.2	RPD	DUP02	TP07_0.0-0.2	RPD	DUP03	TP13_0.0-0.2	RPD	DUP05	TP21_0.0-0.2	RPD	DUP06	TP22_0.0-0.2	RPD	DUP07	TP22_0.4-0.6	RPD	94565d	TP01_0.1-0.2	RPD	94595d	TP11_0.0-0.2	RPD	94616d	TP18_0.0-0.2	RPD	94581d	TP06_0.4-0.6	RPD	94629d	TP22_0.4-0.6	RPD
	Sample Type		Duplicate	Clayey Silt		Duplicate	Clayey Silt		Duplicate	Clayey Silt		Duplicate	Clayey Silt		Duplicate	Clayey Silt		Duplicate	Clay			Clayey Silt			Clayey Silt			Clayey Silt			Clay			Clay	
	Date Sampled		13/6/07	13/6/07		13/6/07	13/6/07		13/6/07	13/6/07		13/6/07	13/6/07		14/6/07	14/6/07		14/6/07	14/6/07			13/6/07			13/6/07			13/6/07			13/6/07			14/6/07	
	Units	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%	mg/kg	mg/kg	%
TPH	C_{10} - C_{14}	-	<50	<50	nc	<50	<50	nc	<50	<50	nc	-	<50	-	-	<50	-	-	-	-	<50	<50	nc	<50	<50	nc	<50	<50	nc	-	-	-	-	-	-
	C_{15} - C_{28}	-	<100	<100	nc	<100	<100	nc	<100	<100	nc	-	<100	-	-	<100	-	-	-	-	<100	<100	nc	<100	<100	nc	<100	<100	nc	-	-	-	-	-	-
	C_{29} - C_{36}	-	<100	<100	nc	<100	<100	nc	<100	<100	nc	-	<100	-	-	<100	-	-	-	-	<100	<100	nc	<100	<100	nc	<100	<100	nc	-	-	-	-	-	-
	Total C_{10}-C_{36}	1000	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	-	-	nc	-	-	-	-	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	-	-	-	-	-
PAH	Naphthalene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Acenaphthylene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Acenaphthene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Fluorene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Phenanthrene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Anthracene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Fluoranthene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Pyrene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Benz(a)anthracene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Chrysene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Benzo(b)&(k)fluoranthene	-	<1	<1	nc	<1	<1	nc	<0.5	<1	nc	-	<1	-	-	<1	-	-	-	-	<1	1	nc	<1	<1	nc	<1	<1	nc	-	-	-	-	-	-
	Benzo(a) pyrene	5	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Dibenz(a,h)anthracene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Benzo(g,h,i)perylene	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Sum of reported PAHs	100	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	-	-	nc	-	-	-	-	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	-	-	-	-	-
Metals	Arsenic	500	6	4	40	3	2	40	14	6	80	8	4	67	6	5	18	7	6	15	4	5	22	6	6	0	5	6	18	4	4	0	6	6	0
	Barium	-	96	90	6	64	61	5	90	79	13	140	85	49	110	99	11	60	67	11	81	87	7	180	170	6	180	180	0	100	130	26	66	67	2
	Cadmium	100	<0.1	<0.1	nc	<0.1	<0.1	nc	<1	0.1	nc	<1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc	<0.1	<0.1	nc
	Chromium	600000	17	14	19	10	8	22	24	17	34	17	10	52	11	10	10	16	13	21	11	13	17	20	22	10	16	18	12	19	18	5	13	13	0
	Copper	5000	12	14	15	8	8	0	41	41	0	16	11	37	11	12	9	14	14	0	11	10	10	27	29	7	22	21	5	16	16	0	14	14	0
	Lead	1500	22	16	32	11	9	20	18	17	6	23	15	42	14	13	7	16	17	6	17	21	21	21	22	5	19	22	15	16	15	6	17	17	0
	Manganese	7500	1410	920	42	910	540	51	1280	1040	21	1520	970	44	2070	1600	26	800	990	21	1070	1280	18	1010	920	9	1060	1230	15	160	190	17	1020	990	3
	Nickel	3000	7	7	0	4	4	0	8	9	12	9	7	25	8	6	29	7	7	0	5	5	0	11	11	0	8	8	0	6	7	15	6	7	15
	Zinc	35000	16	16	0	11	12	9	45	51	13	30	18	50	24	16	40	21	21	0	20	18	11	47	49	4	33	35	6	11	14	24	20	21	5
	Mercury	75	0.06	0.09	40	<0.05	0.07	nc	0.2	0.17	16	<0.1	0.05	nc	<0.05	0.05	nc	<0.05	<0.05	nc	0.09	0.11	20	0.12	0.13	8	0.12	0.13	8	0.05	0.05	0	<0.05	<0.05	nc
OCP	alpha-BHC	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Hexachlorobenzene (HCB)	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	beta-BHC	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	gamma-BHC	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	delta-BHC	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Heptachlor	50	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Aldrin	50	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Dieldrin		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Heptachlor epoxide	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	trans-Chlordane	250	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	cis-Chlordane		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Endosulfan I	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	4,4'-DDE		<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	4,4'-DDD	1000	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	4,4'-DDT		<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.2	nc	-	<0.2	-	-	<0.2	-	-	-	-	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.2	nc	-	-	-	-	-	-
	Endrin	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Endosulfan II	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Endosulfan sulfate	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	<0.05	-	-	<0.05	-	-	-	-	<0.05	<0.05	nc	<0.05	<0.05	nc	<0.05	<0.05	nc	-	-	-	-	-	-
	Methoxychlor	-	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.2	nc	-	<0.2	-	-	<0.2	-	-	-	-	<0.2	<0.2	nc	<0.2	<0.2	nc	<0.2	<0.2	nc	-	-	-	-	-	-
OPP	Dichlorvos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Mevinphos (Phosdrin)	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Demeton (total)	-	<1	<1	nc	<1	<1	nc	<0.05	<1	nc	-	<1	-	-	<1	-	-	-	-	<1	<1	nc	<1	<1	nc	<1	<1	nc	-	-	-	-	-	-
	Ethoprop	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Monocrotophos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.2	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Phorate	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Dimethoate	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Diazinon	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Disulfoton	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Methyl parathion	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Ronnel	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Fenitrothion	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Malathion	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Chlorpyrifos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Ferithion	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Parathion	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.2	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Stirofos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Prothiofos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Azinophos methyl	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
	Coumaphos	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.05	<0.5	nc	-	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	nc	<0.5	<0.5	nc	<0.5	<0.5	nc	-	-	-	-	-	-
Phenoxy Acetic Acid Herbicides	Dalapon	18470	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	Clopyralid	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	o-Chlorophenoxy acid	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	p-Chlorophenoxy acid	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	Dicamba	18468	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	MCPP	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	MCPA	307	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	Dichlorprop	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	2,4-D	7683	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	Triclopyr	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	2,4,5-TP (Silvex)	4924	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	MCPB	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	2,4,5-T	6156	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	Fluoxypyr	-	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-
	2,4-DB	4924	<0.1	<0.1	nc	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	nc	-	-	-	<0.1	<0.1	nc	-	-	-	-	-	-

Notes:
mg/kg = milligrams per kilogram.
RPD = Relative Percent Difference
nc = RPD not calculated (result/s < EQL)
BOLD = result > DQI
- = Not analysed

FIELD DUPLICATES
Inter-Laboratory Duplicate
Inter-Laboratory Duplicate
Laboratory Duplicates

Data Entry: KDH
Data Review: AL
HLA ENSR

Figure

"This page has been left blank intentionally"

G:\Jobs\S4\S40700_S40799\S40742\S4074204 F1.cdr 11 12 2007 www.hlaensr.aecom.comm

ENSR | AECOM

0 100m

Study area boundary
Contour line
TP14 Test pit sample location

Figure 1 | **Sample Location Plan**

Goodman International Limited

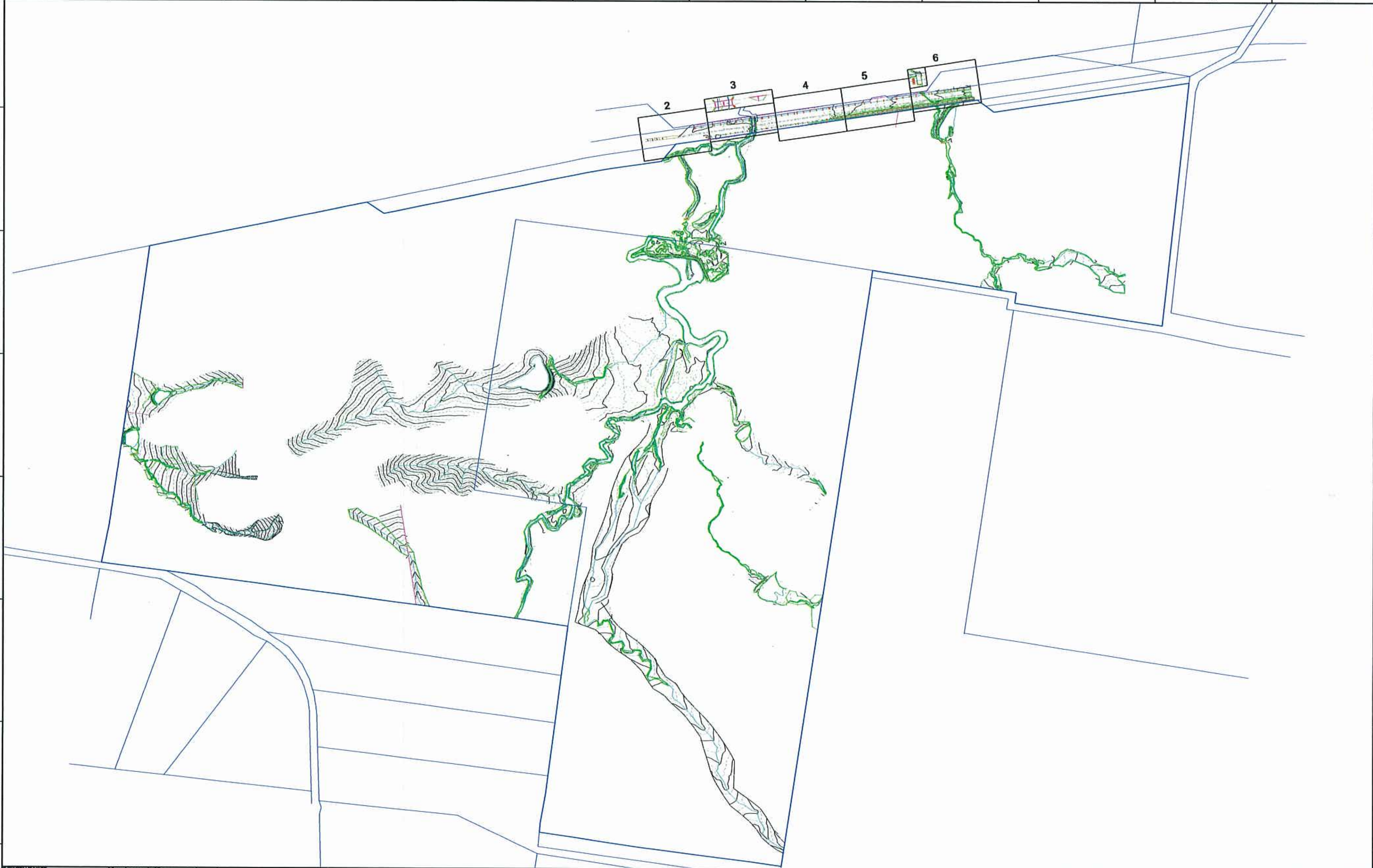
Limited Scope Stage 2 Environmental Site Assessment

Oakdale Concept Plan

Appendix A

Site Survey

"This page has been left blank intentionally"



IMPORTANT NOTE:
This plan is prepared for Macquarie Goodman from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose.
The title boundaries shown hereon were not marked by the author at the time of survey and have been determined by plan dimensions only and not by field measurement.

A services search of the area surveyed above has not been undertaken.
Visible services shown hereon have been located where possible by field survey.
Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.
This note is an integral part of this plan.

LEGEND:

- SEWER MANHOLE
- UNCLASS SEWER
- SEWER VENT
- SEWER LAMP HOLE
- TELSTRA PIT 1.8x1.2
- UNCLASS TELSTRA
- TWIN TELSTRA PIT
- TELSTRA PIT
- BENCH MARK
- UNCLASS ELECTRICITY
- POWER POLE
- LIGHT POLE
- ELECTRICITY PIT
- UNCLASS SERVICE
- UNCLASS WATER
- WATER METER
- STOP VALVE
- TAP
- HYDRANT
- GULLY PIT
- JUNCTION BOX
- GRATED PIT
- DRAINAGE MANHOLE
- STATE SURVEY MARK
- SURVEY MARK
- GAS PIT
- GAS MARKER POST
- UNCLASS GAS
- TRAFFIC CONTROL SIGNAL
- TRAFFIC JUNCTION BOX
- TRAFFIC SIGNAL PIT

REVISION	DATE	DESCRIPTION	CCAD REF	APPROVED
00	05.06.2007	PRELIMINARY ISSUE	AA	PWC

SCALE: HORZ. VERT. | B1

CONTOUR INTERVAL: MAJOR 1.0 MINOR 0.5

HORIZONTAL ORIGIN

COORD. SYSTEM: MGA

MARK ADOPTED: SSM SSM 115572
COORDINATES:
E 299 737.850
N 6 234 883.785

VERTICAL DATUM

DATUM: AHD

BM ADOPTED: SSM 115572
RL: 73.975

HARD & FORESTER
52 Frederick Street
PO Box 175
Rockdale NSW 2216
DX11116 Kogarah
t: (02) 9599 4077
f: (02) 9599 2148
e: survey@hardforester.com.au
w: www.hardforester.com.au
Consulting Surveyors
Hard & Forester Pty Ltd ABN 97 002 093 348

SURVEYED	DRAWN	CHECKED	PASSED
J.L./M.C.	O.M.		

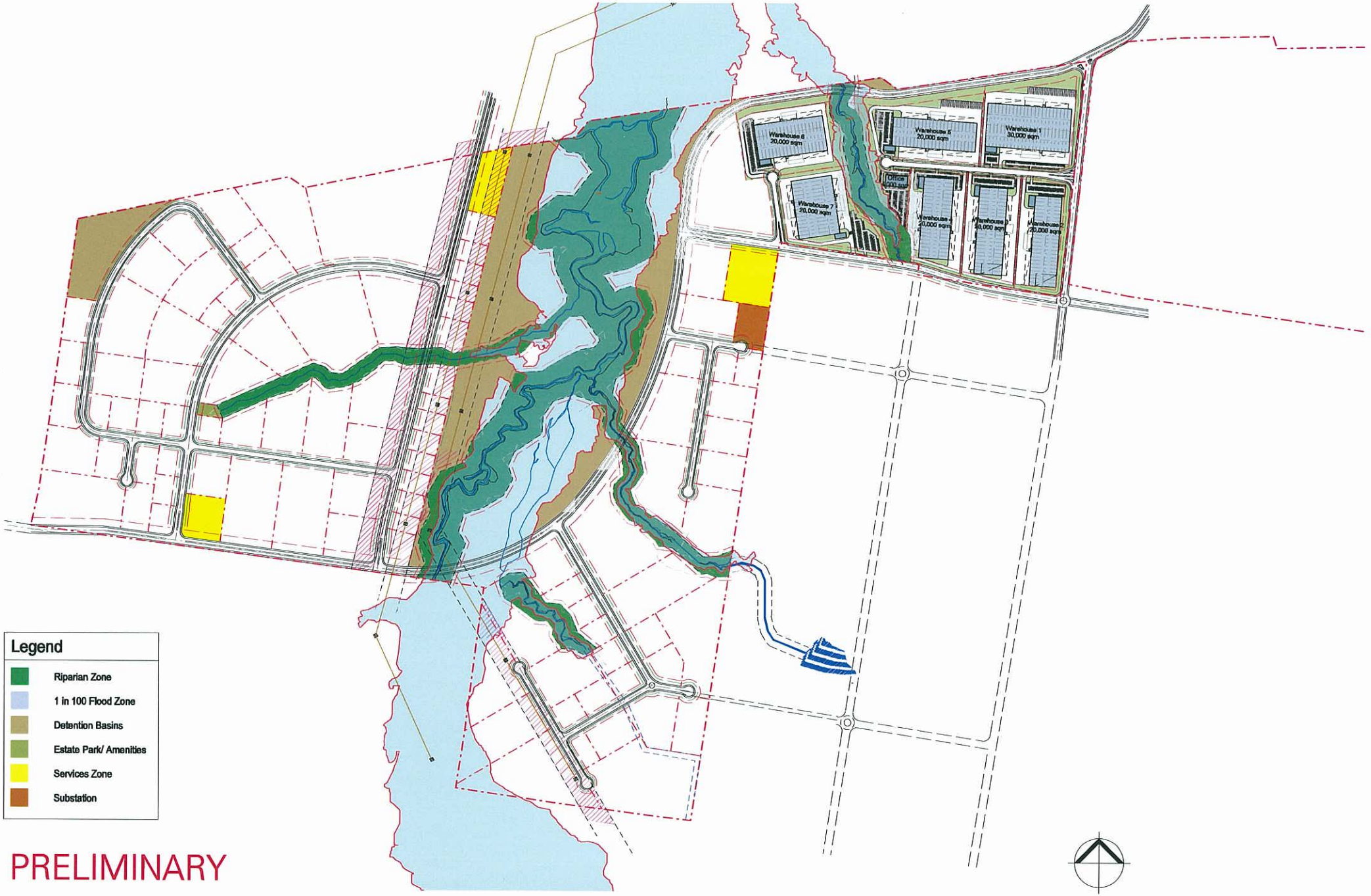
PROJECT: SOUTHPIPE

PLAN SHOWING DETAIL, LEVELS & CONTOURS FOR FLOOD STUDY

CLIENT: MACQUARIE GOODMAN

SHEET OF 7

DRAWING NUMBER: 111348002 REV: 00



PRELIMINARY

Macquarie Goodman
Inspired customer solutions

Oakdale Industrial Estate
DOP Site 8

Masterplan

1: 5000 @ A1
1:10000 @ A3
20 June 07 JC

SP SK35 (A)

PRELIMINARY

Development Area Schedule	
STAGE 1	
Site 1	71,850 sqm
Warehouse	30,000 sqm
Office	600 sqm
Carpark	170
Site 2	45,385 sqm
Warehouse	20,000 sqm
Office	550 sqm
Carpark	140
Site 3	48,800 sqm
Warehouse	20,000 sqm
Office(2 Levels)	1100 sqm
Carpark	160
Site 8	18,750 sqm
Office (2 levels)	4,000 sqm
Carpark	245
STAGE 2	
Site 4	46,300 sqm
Warehouse	20,000 sqm
Office	600 sqm
Carpark	140
Site 5	69,800 sqm
Warehouse	20,000 sqm
Office	600 sqm
Carpark	140
STAGE 3	
Site 6	62,270 sqm
Warehouse	20,000 sqm
Office (Elevated)	600 sqm
Carpark	140
Site 7	57,000 sqm
Warehouse	20,000 sqm
Office (Elevated)	600 sqm
Carpark	140
TOTAL BUILDING AREA	
Site Area	420,155 sqm
Building Area	158,650 sqm

Macquarie Goodman
Inspired customer solutions

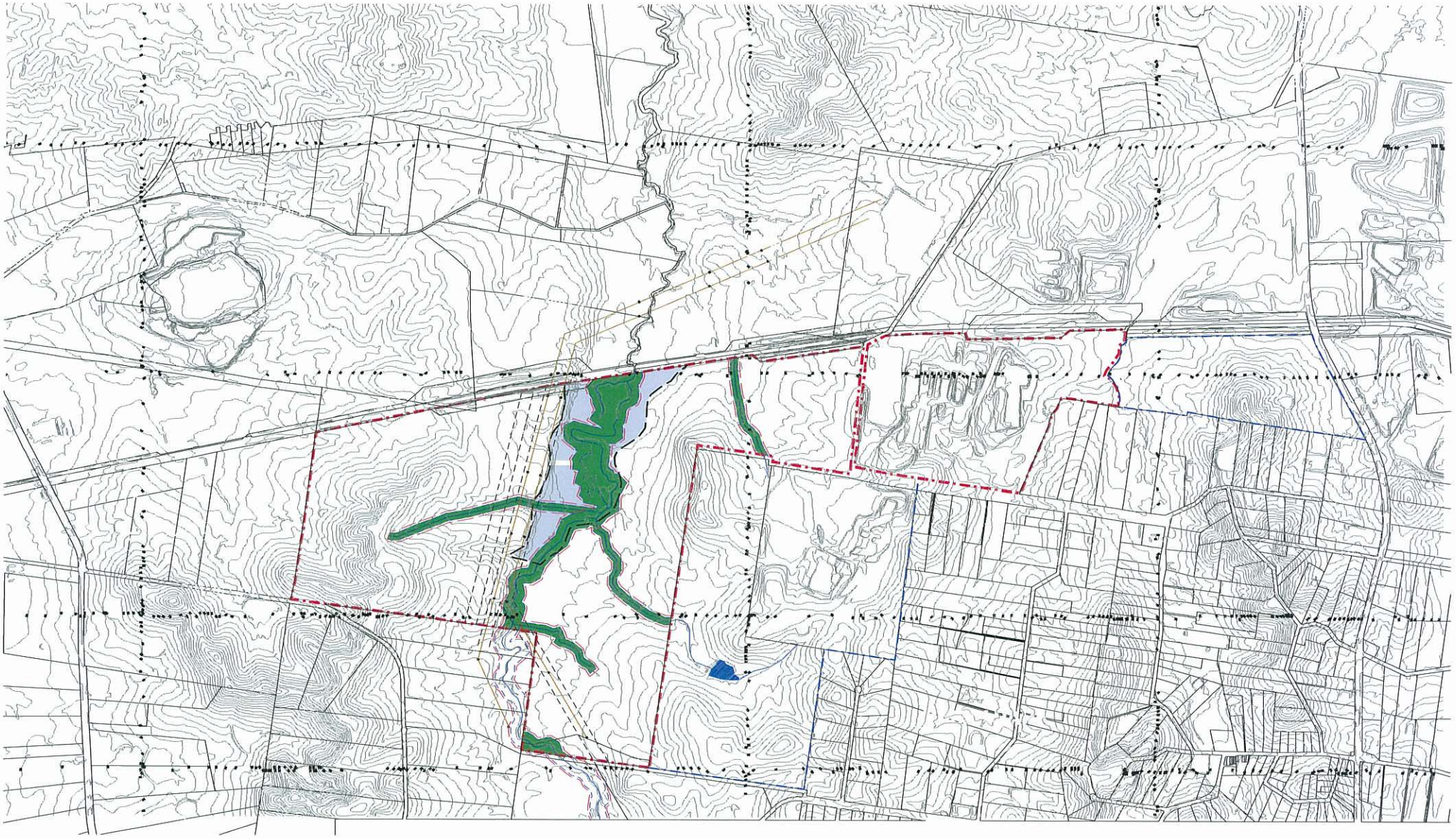
Oakdale
Eastern Creek

Proposed DHL Facility

Site Plan

1:2000 @ A1
1:4000 @ A3
20 June 07 JC

SP DHL SK20 (A)



Macquarie Goodman
Inspired customer solutions

Oakdale Industrial Estate

DOP Site 8

Base Site Plan

1: 5000 @ A1
1:10000 @ A3

15 May 07 VK

SP SK31 (A)

Appendix B

DQOs and Data Validation

"This page has been left blank intentionally"

1 INTRODUCTION

This Appendix describes the Quality Assurance and Quality Control (QA/QC) measures adopted for this project. The site investigation and QA/QC was designed with reference to the Data Quality Objectives (DQO) process to optimise the relevance and quality of the data collected.

The DQO process is a systematic, seven-step process that defines the criteria that an investigation should satisfy. HLA have utilised DQO process developed by the USEPA (2006) Guidance for the Data Quality Objectives Process – EPA QA/G-4 and adopted by NSW DEC (2006). The guidelines incorporate field quality control and laboratory analysis, methods and information on laboratory quality control data and have been used to validate the field and analytical data for this investigation. They have been used, in conjunction with the following objectives, to validate the field and analytical data for this investigation.

2 DATA QUALITY OBJECTIVES

The DQO process is a systematic, seven-step process that defines the criteria that an investigation should satisfy. These steps are summarised below.

STEP 1: State the Problem

The problem, or project objective, is to assess site suitability for commercial/industrial land-use. The site largely comprised rural (grazing) land. Based on Phase I ESA information reviewed, the potential for contamination to be present is considered to be low, however, enviro-soil had been applied to surface soils in site areas located away from the riparian zones.

The DQOs required for this project were completed by Alex Latham (HLA Associate Environmental Scientist), with review undertaken by Paul McCabe (HLA Principal Environmental Scientist).

The roles of the stakeholders involved in the project are as follows:

- HLA: providing environmental site assessment services;
- The Austral Brick Company Pty Limited: as the Site owner;
- Macquarie Goodman: as the developer of the Site; and
- NSW DEC and Local Council: as regulators.

STEP 2: Identify the Decision/s

To assess the suitability of the Site for commercial/industrial land-use, project decisions included:

- Does the soil and/or groundwater at the Site contain concentrations of the contaminants of potential concern (COPC) above NSW DEC endorsed assessment criteria for residential land use;
- Do the results of the investigation provide sufficient information on the nature and extent of contamination to allow development of a Remedial Action Plan;
- Is the Site, or can the Site be made suitable for residential land use.

STEP 3: Identify Inputs to the Decision

The primary inputs to assessing the contamination conditions of the Site were:

- Defining the Site through use of survey plans, and utility plans;
- Reviewing Site history data and Site condition data (i.e. geology, hydrogeology, soils, topographic map etc);
- Identification of potential receptors and location of sensitive environments;
- Assessing an appropriate number of locations at the Site, including surface and shallow subsurface soils;
- Using appropriate soil sample collection techniques so as to obtain samples representative of the Site conditions;
- Using appropriate analytical methods (i.e. NATA endorsed) with quantitation limits below the adopted Site assessment criteria (SAC);

- Assessing for the presence of COPC in natural soil at concentrations above NSW DEC (2006) endorsed SAC for commercial/industrial land-use. If COPC are identified above the SAC, results would be statistically evaluated by calculation of the 95% Upper Confidence Limit (UCL) of the mean concentration;
- Assessment of the type and location of contamination;
- Assessment of the migration potential of contamination; and
- Use of the Data Quality Objectives (DQO) Process (as detailed in this Appendix).

STEP 4: Define the Study Boundaries

The study boundaries included:

- The property boundary as presented on the survey plan and development concept drawings;
- Areas of potential historical and/or present day contamination at the Site. The investigation targeted areas where enviro-soils were likely applied (i.e. not the riparian zones, where future development is unlikely to occur);
- Subsurface boundaries included clayey silt (topsoils) and clay soils to approximately 1.0 m depth; and
- Constraints related to the timeframe provided for the investigation.

STEP 5: Develop a Decision Rule

The following decision rules were applied:

- Comparison of the results to the SAC; and
- Statistical evaluation of significance of any soil COPC identified at a concentration above the SAC.

Step 6: Specify Limits of Decision Error

The acceptable limits on decision errors is described by the DQIs adopted for both the fieldwork and laboratory analysis. A description of the DQIs and assessment of attainment of the DQIs is presented in Sections 3 and 4 of this Appendix.

Step 7: Develop the Plan for Obtaining the Data

A conceptual Sampling, Analysis and Quality Plan (SAQP) was developed based on the information provided in Steps 1 to 6 above. The SAQP has been designed to ensure that HLA obtains the information required to meet the objectives of the works completed. Main components of the SAQP included the following:

- Excavation of 25 exploratory test pits by backhoe to an approximate depth of one metre into natural soil, at locations where enviro-soil was likely applied and where future development is likely to occur (i.e. riparian zones excluded from assessment). The exposed soil profile in a test pit wall allows for detailed appraisal and logging of soil conditions, and collection of samples representative of the target material;
- Collection of at least three soil samples per test pit, including at the surface, and at approximately 0.5 m and 1.0 m below ground surface. If identified, fill

materials were to be sampled, and the uppermost layer of underlying natural soil;

- Field screening soil sub-samples for the presence of volatile organic compounds using a calibrated photoionisation detector;
- Recording of sample identification, date, material type etc;
- Collection of samples into appropriate sample jars, and subsequent storage in an insulated, chilled environment (i.e. esky with crushed ice);
- Collection of field duplicate samples;
- Recording of sampling locations by hand-held GPS unit, with subsequent 'marriage' of GPS data to survey data;
- Analysis of soil samples for the COPC by commercial analytical laboratories, in accordance with NATA certified methods and the requirements of NEPC; and
- Comparison of data to NSW DEC (2006) endorsed assessment criteria.

Further information on the SAQP is provided in Section 3 of this Appendix.

3 DATA QUALITY INDICATORS

The following sections assess the achievement of the DQOs, by consideration of the data quality indicators (DQIs), including precision, accuracy, reproducibility, completeness and comparability. The project DQIs have been established to set acceptance limits on field and laboratory data collected as part of this investigation. The DQIs are as follows:

DQI	Field	Laboratory	Acceptability Limits
Completeness	All critical locations sampled All samples collected (from grid and depth) SOPs appropriate and complied with Experienced sampler Documentation correct	All critical samples analysed and all analytes analysed according to SAQP Appropriate methods Appropriate EQLs Sample documentation complete Sample holding times complied with	As per NEPC (1999) < nominated criteria As per NEPC (1999)
Comparability	Sample SOPs used on each occasion Experienced sampler Climatic conditions Same types of samples collected	Same analytical methods used Sample EQLs Same laboratories (NATA accredited) Same units	As per NEPC (1999) < nominated criteria
Representativeness	Appropriate media sampled according to SAQP All media identified in SAQP sampled	All samples analysed according to SAQP	
Precision	SOPs appropriate and complied with Collection of blind and split duplicate samples	Analysis of: Field duplicates (1 in 10 samples) Inter-laboratory duplicates (1 in 20 samples) Laboratory duplicate samples	 RPD of 30 to 50% RPD of 30 to 50% RPD of 30 to 50%
Accuracy	SOPs appropriate and complied with Collection of rinsate blanks	Analysis of: Rinsate blanks (1/day) Method blanks Matrix spikes Matrix spike duplicates Surrogate spikes Laboratory control samples Laboratory prepared spikes Reagent blanks Reference materials	 Non-detect for COPC Non-detect for COPC 70 to 130% RPD of <30% 70 to 130% 70 to 130 % 70 to 130% Non-detect for COPC Varies

Notes: SOPs = HLA standard operating procedures
EQLs = laboratory estimated quantitation limits (also known as practical quantitation limits, or PQLs)

3.1 Field QA/QC

3.1.1 Field Staff

Soil samples were collected on 13 and 14 June 2007, by Mr Ken Douglas-Hill, a suitably qualified and experienced HLA Environmental Scientist. Soil sampling was undertaken with reference to written Standard Operating Procedures for each task that comprised the field program.

3.1.2 Soil Sampling

Soil sampling was undertaken from the exposed soil profile in the test pit wall and from materials that were in the backhoe bucket. When sampling from the bucket (i.e. generally samples from 1.0 m bgs), care was taken to collect soil from the relatively undisturbed bulk of material within the bucket, and not from material that had been in contact with the bucket sides. Discrete soil samples were collected by gloved hand, and transferred directly to the sample jar.

Samples were generally collected at the surface, 0.5 m, 1.0 m and every metre to the end of the borehole and at significant stratigraphic changes.

3.1.3 Sample Handling and Preservation

A new pair of disposable nitrile sampling gloves were worn for each sample collection event. Soil samples were placed immediately into laboratory prepared and supplied, acid washed and solvent jars with screw top Teflon-lined lids. Sample jars were filled so that no headspace remained (where practical).

Soil samples were placed in a chilled, insulated container (esky) with crushed ice between sampling and analysis. Care was taken to keep samples above the melt-water within the esky. Samples were preserved for the various contaminants of concern in accordance with the requirements of NEPC (1999) as detailed in the table below:

Matrix	Analyte	Container
Soil	All COPC	250 mL Glass jar, teflon-lined plastic lids.

Sample numbers, depths, preservation and analytical requirements were recorded on the chain-of-custody (c-o-c) documentation, which accompanied the samples to the laboratory. Signed copies of the c-o-c's are provided with the laboratory reports in Appendix D.

3.1.4 Calibration

Screening of the vapour headspace of soil samples for volatile organic compounds (VOCs) in the field was undertaken using a photoionisation detector (PID). The PID was calibrated by Biolab Pty Ltd with isobutylene (97 ppm) prior to the start of field activities and by HLA during field activities. All calibration results were satisfactory. The PID calibration records are included within this Appendix.

3.1.5 Field Duplicates

The purpose of field duplicate samples are to estimate the variability of a given characteristic or contaminant associated with a population (i.e. measure the precision of the sampling, sample

preparation and sample analysis process). Inter-laboratory duplicates are utilised to assess the accuracy of the primary laboratory data.

For this project, duplicate soil samples were collected in the field at a rate of at least one in ten primary samples. Inter-laboratory duplicate soil samples were collected at a rate of at least one in twenty primary samples.

The field duplicated soil samples were obtained from similar soils of an identical depth and immediately adjacent to the primary sample by placing approximately equal portions of the primary sample into two sample jars. Duplicate samples were labelled so as to conceal their relationship to the primary sample from the laboratory and the key to the duplicate samples was recorded in the field note book.

It is common that significant variation in duplicate results is often observed (particularly for solid matrix samples) due to sample heterogeneity or low reported concentrations near the estimated quantitation limit (EQL). The overall precision of field duplicates, inter-laboratory split and laboratory duplicates is generally assessed by their Relative Percent Difference (RPD), given by:

$$RPD = \frac{|C1-C2|}{(C1+C2)/2} \times 100$$

(where C1 = primary sample result
C2 = duplicate sample result)

RPDs for duplicate samples have been compared to criteria presented in the DQI table (refer Section 3). A summary of the field duplicate samples analysed is presented in Table 1 and the results are presented on Table 3. Table 1 shows that duplicate samples were analysed at a frequency of approximately 10% and inter-laboratory duplicates at an approximate frequency of 5%.

The RPD of all field duplicate samples met the DQI, with the following exceptions:

- DUP02 & TP07_0.0-0.2: the RPD for manganese is 51%. The calculated RPD only marginally exceeds the DQI of 50% and it is noted that the primary and duplicate result were well below the site assessment criteria (SAC);
- DUP03 & TP13_0.0-0.2: the RPD for arsenic is 80%, which is attributed to low detected concentrations, and is therefore considered to be acceptable; and
- DUP05 and TP21_0.0-0.2: the RPD for arsenic (67%) and chromium (52%) are attributed to low detected concentrations, and are therefore considered to be acceptable.

HLA concludes that the precision of the data is sufficient for the purposes of the investigation.

3.1.6 Decontamination and Rinsate Blanks

As stated previously, a new pair of disposable nitrile sampling gloves were worn to collect each sample, thereby negating the need for decontamination. Collection and analysis of equipment rinsate blank samples was not considered necessary.

3.2 Laboratory QA/QC

3.2.1 Analytical Laboratories

Samples were submitted to the following laboratories:

- Labmark in Asquith, NSW (primary laboratory): Labmark's NATA accreditation number is 13542, and its analytical procedures are based on established internationally-recognised procedures (refer Table in Section 3.2.2); and
- ALS in Smithfield, NSW (secondary laboratory): ALS' NATA accreditation number is 825, and its analytical procedures are also based on established internationally-recognised procedures (refer Table in Section 3.2.2).

3.2.2 Analytical Methods

The laboratory analysis methods are provided on the laboratory certificates in Appendix D and summarised below:

Analyte	Matrix	Reference Method*	EQL	SAC
Metals	Soil	USEPA SW846, 6010	0.05-5	75-600 000
TPH C10-C36	Soil	USEPA 8015A	50-100	1000
PAH	Soil	USEPA 8270C	0.5	5-100
OCP	Soil	USEPA 8270B	0.05–0.2	50-1000
OPP	Soil	USEPA 8270B	0.5	N/A
Phenoxy Acid Herbicides	Soil	USEPA 8151	0.1	N/A

Notes:
* denotes Laboratory methodology based on Reference Method
Metals = As, Ba, Cd, Cr, Cu, Hg, Mn, Ni, Pb and Zn
Estimated Quantitation Limits (EQLs) & Assessment Criteria are mg/kg
EQLs listed are for the LabMark
N/A = not applicable

All laboratory EQLs were below DEC endorsed assessment criteria.

3.2.3 Laboratory (Method) Blanks

Laboratory or control blanks consist of reagents specific to each individual analytical method and are prepared and analysed by laboratories in the same manner as regular samples. The preparation and analysis of laboratory blanks enables the measurement of contamination within the laboratory.

Laboratory blanks are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per batch. Review of the laboratory reports indicated that the results for all method blanks were below the laboratory EQL.

3.2.4 Laboratory Duplicates

Laboratory duplicate samples are prepared in the laboratory by splitting a field sample and analysing it as two independent samples. The analysis of laboratory duplicate samples provides an indication of analytical precision and may be influenced by sample heterogeneity. The laboratory duplicate RPDs are used to assess laboratory precision.

Laboratory duplicates are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per batch, when the batch size exceeds 5 samples.

Review of the laboratory reports indicated that the frequency of duplicate analyses met the required frequency and that all RPDs for the laboratory duplicate samples met the DQI (refer Table 3).

3.2.5 Laboratory Control Samples

Laboratory control samples (LCS) or Quality Control check samples are prepared within the laboratory by spiking an aliquot of an appropriate clean matrix reagent with known concentrations of specific analytes. The LCS sample is then analysed and the results are used to assess the laboratory performance on sample preparation and analysis procedure. Certified reference material may also be used to assess analytical accuracy independent of the investigations. Accuracy is assessed by calculation of percent recovery.

LCSs are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per analytical batch. Review of the laboratory reports indicated that the percent recoveries for laboratory control samples met the DQI.

3.2.6 Matrix Spikes

Matrix spikes are samples prepared within the laboratory by dividing a field sample into two aliquots, then spiking each with identical concentrations of the analytes. The matrix spike and matrix spike duplicate are then analysed separately and the results compared to determine the effects of the sample matrix on the accuracy and precision of the analytes. Accuracy is assessed by the calculation of the percent recovery (PR).

Review of the laboratory reports indicates that matrix spike were analysed at the rate of 1 in 20, when the batch size exceeded 5 samples, and that the recovery rates were within the quality objectives, with the exception of sample TP24_0.4-0.6 and TP20_0.0-0.2. In these instances, PR's for arsenic, copper, zinc, nickel and one herbicide compound were marginally below the DQI. These results are not considered to compromise the integrity of the obtained data, as these compounds have not been identified at concentrations near or above the SAC.

3.2.7 Surrogates

Surrogates are compounds which are similar to the organic analytes of interest in chemical composition, extraction, and chromatographic behaviour, but which are not normally found in field samples. Surrogates are generally spiked into all sample aliquots prior to preparation and analysis by chromatogaphic methods. PR's are calculated for each surrogate, providing an indication of analytical accuracy. US EPA methodology (SW–846) requires that surrogate testing be performed whenever analysing by Gas Chromatography or HPLC.

Review of the laboratory reports indicated that the PR's for surrogates met the DQI.

3.2.8 Holding Times

NEPC (1999), APHA 20th Edition and AS2031.1-1986 provide recommended holding times for various analyses which must be met in order to consider the results valid. The holding times may vary slightly depending on the document referenced. Review of the chain-of-custody documentation and the laboratory reports indicated that the holding time have been met for all analyses, as per the following table:

Analyte	Matrix	Recommended Maximum Holding Time
Metals (9)	Soil	6 months
Mercury	Soil	28 days
TPH C10-C36	Soil	14 days
PAH	Soil	14 days
OCP/OPP	Soil	14 days
Herbicides	Soil	14 days

4 DATA VALIDATION

The overall assessment of the quality of the data obtained during this investigation is discussed below in terms of the DQI's provided in Section 3. The DQIs are as follows:

DQI	Description	Compliance
Completeness	Completeness is a measure of the amount of usable data (expressed as %) from a data collection activity.	The completeness of data is defined as the percentage of analytical results that are considered valid. Valid chemical data are values that have been identified as acceptable or acceptable as qualified during the data validation process. The completeness is a comparison of the total number of samples accepted against the total number of samples, calculated as a percentage. The project goal for completeness is 95%. Completeness also includes checking that all entries in the data tables are correct, properly entered, and that any typographical errors are corrected and the data are re-entered properly, as required. All samples collected and analysed complied with the DQOs and DQIs (apart from minor variances discussed and evaluated to be acceptable), as such the data obtained is considered to be sufficiently quantitative and complete for the purposes of this investigation (i.e. >95%)
Comparability	Comparability is the confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.	Comparability expresses the confidence with which one data set can be compared with another. In order to assess comparability, field sampling procedures, laboratory sample preparation procedures, analytical procedures, and reporting units must be known and similar to established protocols, as was the case during this investigation. Qualitatively, data subjected to strict QA/QC procedures will be deemed more reliable, and therefore more comparable, than other data. The sampling was conducted by an HLA environmental scientist in accordance with the sampling and analysis procedures described in the SAQP. Each analyte was analysed by the same analytical laboratory using identical methods, and laboratory EQLs were consistent over each laboratory batch. Additionally, a check laboratory was used to assess variability between laboratories. Based on the above, the data obtained throughout the investigation is considered to be suitably comparable.

DQI	Description	Compliance
Representativeness	Representativeness is the confidence (expressed qualitatively) that data are representative of each media present on the site.	Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of parameter variations at sampling points or environmental conditions. Sample representativeness is controlled through selecting sampling locations that exemplify site conditions and obtaining suitable samples from these sites. Sample selection and analysis was conducted in order to meet the specific objectives of the project. Analysis for the contaminants of concern was selectively conducted on soil samples as indicated in analytical tables. Based on the sampling and analytical regime undertaken by HLA, the results obtained are considered to be sufficiently representative of the subsurface conditions at the locations tested.
Precision	Precision is a quantitative measure of the variability (or reproducibility) of data.	All work was conducted in accordance with HLA's documented SOPs. Precision or variability of the data was assessed by determining RPDs between the original and duplicate samples analysed. Based on results discussed above, HLA considers that the precision of the data is sufficient for the purposes of this investigation.
Accuracy	Accuracy is a quantitative measure of the closeness of reported data to the true value.	All work was conducted in accordance with HLA's documented SOPs. Accuracy of the data was mainly assessed through review of the laboratory QA/QC results, though the rinsate blanks also contributed to the assessment of accuracy. Based on results discussed above, HLA considers that the accuracy of the data is sufficient for the purposes of this investigation.

Based on an assessment of field and laboratory QA/QC data, the reported analytical results are considered, by achievement of the DQIs, to be reliable and representative of concentrations of the compounds analysed at the locations sampled.

Source of Material	Suburb	Description	Analysed	Inspected	Vol' (m3)	Report Date	Consultant	Fill Observed	Comments
20 Close St	Canterbury	clayey sands to sandstone (SST) bedrock	N	Y	NS	16-Aug-05	Urban Environmental Consultants P/L	Y	Fill reportedly to go elsewhere
350 Parramatta Rd	Homebush	clay to shale bedrock	N	Y	NS	17-Aug-05	Douglas Partners	Y	Fill reportedly to go elsewhere
5-11 Garland St	Narremburn	clay, weathered SST, crushed SST	N	Y	11000	01-Nov-04	Douglas Partners	NS	
cnr Nobbs St and The Trongate	South Granville	clay to shale bedrock	N	Y	3600	02-Jun-04	Environmental Investigation Services	NS	
55 Miller St	Pyrmont	SST	N	Y	NS	06-Sep-05	Taylor Geotechnical Engineering	Y	Fill reportedly to go elsewhere
cnr O'Neill and Stimson Sts	Guildford	clay	N	Y	NS	12-Aug-02	SMEC Testing Services P/L	N	reportedly a residential site for 60 years
9-11 Wigram St	Harris Park	clay	N	Y	NS	19-Jun-01	SMEC Testing Services P/L	N	reportedly a residential site for 50 years
67-69 O'Neill St	Guildford	clay	N	Y	NS	23-Mar-00	SMEC Testing Services P/L	N	reportedly a residential site for 25 years
cnr Ann St and Addlestone Rd	Merrylands	clay	N	Y	NS	23-Sep-99	SMEC Testing Services P/L	N	
23-27 Belmore St	Nth Parramatta	clay	N	Y	NS	08-Jan-04	SMEC Testing Services P/L	N	
31 + 33 Gordon St	Burwood	clay to siltone bedrock	N	Y	NS	21-Feb-00	SMEC Testing Services P/L	N	reportedly a residential site for 60 years
29-31 Memorial Ave	Merrylands	clay to siltone bedrock	N	Y	NS	08-Jul-99	SMEC Testing Services P/L	N	reportedly a residential site for 25 years
20-34 Ashburn Pl	Gladesville	clays to SST	N	Y	NS	26-Apr-05	Urban Environmental Consultants P/L	NS	Former aged care facility. Demolition in progress during inspection
Not provided	Not Provided	Not provided	Y	Y	NS	30-Apr-05	A. D. Envirotech Australia P/L	NS	no test results provided, results reportedly below SIL1 / PBIL and Inert Waste
cnr O'Brien and Darcy Roads (Milsons Park)	Westmead	clay	N	Y	NS	10-May-05	Douglas Partners	Not clear	Topsoil might be regarded as fill
cnr Marion and Harris Sts	Harris Park	clay	N	Y	NS	28-Feb-05	SMEC Testing Services P/L	N	reportedly a residential site for 50 years
cnr Hassal and Charles Sts	Parramatta	clay	N	Y	NS	22-Jul-02	SMEC Testing Services P/L	N	reportedly a residential site for 60 years
47-53 Dobson Cres and 2 4 Kinley Pl	Baulkham Hills	clay	N	Y	NS	27-Mar-01	SMEC Testing Services P/L	N	reportedly a residential site for 25 years
762-768 Military Rd	Mosman	sandy and silty clays	N	Y	NS	16-Jul-04	SMEC Testing Services P/L	Y	Fill reportedly to go elsewhere. Former commercial/residential site
Chatswood-Parramatta Rail Link (CRL)	Chatswood	fill, clay	Y	Y	NS	16-Jul-04	Parsons Brinkerhoff	Y	Spoil from pile bores. Test results met Inert Waste classification, with TCLP tests
Langston Pl (CRL)	Epping	clay and shale	N	Y	400	04-Aug-04	Earth2Water P/L	N	
84-86 Consett St	Concord	loam to clay to shale	N	Y	3000	23-Nov-04	S & N Environmental Engineers and Contractors	N	Vacant residential, former buildings demolished and removed
84-86 Consett St	Concord West	clay to shale bedrock	N	Y	NS	28-Jul-04	Aargus Australia	N	Geotechnical Investigation, 5 boreholes

NS denotes Not Specified in report reviewed

ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm			
Span – Isobutylene	96.3 ppm	97.6 ppm			
Operations Check					
✓ Performance Check (pump, lamp / setting 10.6eV, sensor & battery voltage check)					
✓ Battery Charged	✓ Filters Check	✓ Spare battery Voltage (5.0v minimum) 6.34V			

* Calibration gas traceability information is available upon request.

Date: 07/06/2007 Checked by: MILENKO

Signed:

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
✓			MiniRae 2000 PID / Operational Check, plus Battery Voltage @ 5.4V
✓			Protective yellow rubber boot
✓			Inlet probe (attached to PID)
✓			Water trap filter.
✓			Spare water trap filter(s) Qty 1 @ $_____+GST / filter if opened.
✓			Charger 240V to 12V 500mA
✓			Instruction Manual behind foam on the lid of case "
✓			Quick Guide Sheet behind foam on the lid of case "
✓			Spare Alkaline Battery Compartment with/without batteries
✓			Carry Case
X			Calibration regulator & tubing (optional)

Processors Signature/ Initials MS

EE Quote Reference	C 1544	Condition on return
Customer Ref		
Equipment ID	PIDMINI50	
Equipment serial no.	110008470	
Return Date	/ /	
Return Time		

Sydney – Unit 1, 28 Barcoo St, Chatswood NSW 2067 Australia
Tel: +61-2-9417-1513 Fax: +61-2-9417-7669
Email: rentals.syd@enviroequip.com Internet: www.rentals.enviroequip.com

HLA

Photoionization Detector / Flame Ionization Dector – Calibration Record

Job Number//Name: S4074204

Frequency: Daily on Use or Twice Daily

Serial Number	Date/Time	Fresh Air Cal.	Span Gas Concentration (e.g 100 ppm Isobutylene)	Span Gas Cal.	Name (Print)	Signature
	14·6·07	0	100	101	KEN DOUGLAS-HILL	

Appendix C

Test Pit logs

"This page has been left blank intentionally"

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP01

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP01_0.1-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
0.4			TP01_0.5-0.6	*	0.5		CLAY (CH), stiff, slightly moist, high plasticity, orange/red/grey mottled, no odour, no observed contamination	
								0.70
0.4			TP01_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, orange/red/grey mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP02

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.5			TP02_ 0.1-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.30
0.4			TP02_ 0.5-0.6	*	0.5		CLAY (CH), stiff, slightly moist, high plasticity, orange/red/grey mottled, no odour, no observed contamination	0.60
0.4			TP02_ 0.9-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, orange/red/grey mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP03

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP03_0.0-0.2	✳			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.20
							CLAY (CH), stiff, slightly moist, high plasticity, grey/orange/yellow mottled, no odour, no observed contamination	
0.5			TP03_0.4-0.6	✳	0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.4			TP03_0.8-1.0					
					1.0			1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP04

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP04_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, orange/yellow mottled, no odour, no observed contamination	
0.4			TP04_0.4-0.6		0.5			
								0.70
							CLAY (CH), stiff, dry, high plasticity, grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.2			TP04_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP05

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.5			TP05_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
0.5			TP05_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, orange/yellow mottled, no odour, no observed contamination	
								0.60
0.3			TP05_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, grey/yellow mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP06

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP06_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
0.2			TP06_0.4-0.6	*	0.5		CLAY (CH), stiff, slightly moist, high plasticity, orange/yellow mottled, no odour, no observed contamination	
								0.60
0.2			TP06_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP07

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP07_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.30
0.3			TP07_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, grey/orange/yellow mottled, no odour, no observed contamination	0.60
0.3			TP07_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP08

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP08_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark grey, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, brown/grey/orange mottled, no odour, no observed contamination	
0.4			YP08_0.4-0.6	*	0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, brown/grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.3			TP08_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP09

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.5			TP09_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark grey, no odour, no observed contamination	
								0.30
0.4			TP09_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, orange/yellow mottled, no odour, no observed contamination	
								0.60
0.4			TP09_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
					1.0			1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP10

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP10_0.0-0.2	✳			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	
0.5			TP10_0.4-0.6	✳	0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.3			TP10_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP11

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP11_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
0.4			TP11_0.4-0.6	*	0.5		CLAY (CH), stiff, slightly moist, high plasticity, brown/orange/yellow mottled, minor charcoal, no odour, no observed contamination	
								0.60
0.2			TP11_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, grey/yellow mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP12

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2			TP12_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, brown/orange mottled, no odour, no observed contamination	
0.4			TP12_0.4-0.6		0.5			
								0.70
							CLAY (CH), stiff, dry, high plasticity, brown/grey/orange/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.3			TP12_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP13

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP13_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.20
							CLAY (CH), stiff, slightly moist, high plasticity, brown/orange mottled, no odour, no observed contamination	
0.3			TP13_0.4-0.6		0.5			
								0.70
							CLAY (CH), stiff, dry, high plasticity, cream/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.2			TP13_0.8-1.0					
					1.0			1.00
							Weathered SHALE (SHALE), grey/brown, ironstone staining	1.05
							Test Pit Terminated Total Depth: 1.05 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP14

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.5			TP14_0.0-0.2	✳			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.20
0.6			TP14_0.4-0.6	✳	0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	0.70
0.4			TP14_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, cream/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP15

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP15_0.0-0.2	✳			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.20
0.2			TP15_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	0.60
0.2			TP15_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, red/brown mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP16

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2			TP16_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.30
0.3			TP16_0.4-0.6	*	0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	0.80
0.2			TP16_0.8-1.0				CLAY (CH), stiff, dry, high plasticity, cream/red/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
					1.0		Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP17

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.6			TP17_0.0-0.2	✳			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown/grey, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, red/orange/brown mottled, no odour, no observed contamination	
0.3			TP17_0.4-0.6		0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, red/brown/grey/orange/black mottled, minor gravel (shale), no odour, no observed contamination	
0.3			TP17_0.8-1.0					
					1.0			1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP18

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2			TP18_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.20
0.3			TP18_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/orange/brown mottled, no odour, no observed contamination	0.70
0.2			TP18_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, grey/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP19

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4			TP19 0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.20
0.4			TP19 0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, minor charcoal, no odour, no observed contamination	0.60
0.3			TP19 0.8-1.0				CLAY (CH), stiff, dry, high plasticity, cream/grey/yellow mottled, minor gravel (shale), no odour, no observed contamination	
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP20

PROJECT NUMBER S4074204 **DATE** 13/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2			TP20_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.30
0.3			TP20_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	0.60
0.3			TP20_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, light brown/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL.LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP21

PROJECT NUMBER S4074204 **DATE** 14/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			TP21_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, grey/brown mottled, no odour, no observed contamination	
0.3			TP21_0.4-0.6	*	0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, grey/brown mottled, minor gravel (shale), no odour, no observed contamination	
0.2			TP21_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP22

PROJECT NUMBER S4074204 **DATE** 14/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.6			TP22_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, grey/brown, no odour, no observed contamination	0.20
							CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	
0.4			TP22_0.4-0.6	*	0.5			0.60
							CLAY (CH), stiff, dry, high plasticity, red/brown mottled, minor gravel (shale), no odour, no observed contamination	
0.3			TP22_0.8-1.0					
					1.0		Test Pit Terminated Total Depth: 1.00 m	1.00

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP23

PROJECT NUMBER S4074204 **DATE** 14/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.6			TP23_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.30
0.7			TP23_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	0.60
0.4			TP23_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, cream/brown/yellow mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP24

PROJECT NUMBER S4074204 **DATE** 14/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.7			TP24_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	
								0.30
							CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, no odour, no observed contamination	
0.5			TP24_0.4-0.6	*	0.5			
								0.60
							CLAY (CH), stiff, dry, high plasticity, cream/brown/yellow mottled, minor gravel (shale), no odour, no observed contamination	
0.4			TP24_0.8-1.0					
					1.0			1.00
							Test Pit Terminated Total Depth: 1.00 m	

HLA-Envirosciences
Level 5, 828 Pacific Highway
Gordon, NSW., 2072
Phone: 02 8484 8999
Fax: 02 8484 8989

TEST PIT LOG TP25

PROJECT NUMBER S4074204 **DATE** 14/06/2007
PROJECT NAME Oakdale, Lot 2 **SURFACE ELEVATION**
LOCATION Horsley Park
DRILLING METHOD Backhoe
EXCAVATION METHOD Grab
LOGGED BY K. Douglas-Hill
STABILISED WATER LEVEL
GROUND WATER ELEVATION
COMMENTS

PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.1			TP25_0.0-0.2	*			Clayey SILT (ML), medium stiff, moist, low plasticity, dark brown, no odour, no observed contamination	0.20
0.5			TP25_0.4-0.6		0.5		CLAY (CH), stiff, slightly moist, high plasticity, red/brown mottled, minor charcoal, no odour, no observed contamination	0.70
0.5			TP25_0.8-1.0		1.0		CLAY (CH), stiff, dry, high plasticity, light brown/red/yellow/cream mottled, minor gravel (shale), no odour, no observed contamination	1.00
							Test Pit Terminated Total Depth: 1.00 m	

GENERAL LOG S4074204_OAKDALE_LOGS.GPJ HLA_SYD.GDT 19/06/07

Appendix D

Laboratory Results

"This page has been left blank intentionally"

LabMark

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

ilac-MRA NATA Accreditation No. 13543

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

AQIS
AUSTRALIAN QUARANTINE AND INSPECTION SERVICE
SYDNEY License No. N0356.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QC1) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E032497	Cover Page 1 of 3 plus Sample Results
Client Name:	HLA - Envirosciences Pty Limited	
Client Reference:	Horsely Park	
Contact Name:	Alex Latham	
Chain of Custody No:	na	Date Received: 14/06/2007
Sample Matrix:	SOIL	Date Reported: 19/06/2007

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

Data Quality Objective	s:	matrix spike recovery	p:	pending	bcs:	batch specific lcs
Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample	bmb:	batch specific mb
Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material		
not applicable	r:	RPD relative % difference	mb:	method blank		

David Burns
Quality Control (Report signatory)
david.burns@labmark.com.au

Geoff Weir
Authorising Chemist (NATA signatory)
geoff.weir@labmark.com.au

Simon Mills
Authorising Chemist (NATA signatory)
simon.mills@labmark.com.au

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

Environmental Laboratory Industry Group
Foundation Member

Laboratory Report: E032497

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	Petroleum Hydrocarbons (TPH)	27	3	11%	0	2	7%
5	Polyaromatic Hydrocarbons (PAH)	27	3	11%	0	2	7%
9	Organochlorine Pesticides (OC)	27	3	11%	0	2	7%
13	Organophosphorus Pesticides (OP)	27	3	11%	0	2	7%
17	Acid extractable mercury	41	5	12%	0	3	7%
20	Acid extractable metals	41	5	12%	0	3	7%
26	Phenoxy Acid Herbicides	11	2	18%	0	1	9%
28	Moisture	41	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, Corporate Site No. 13535., unless indicated below.

B. Metals (soil) * arsenic recovery for Lab #94635s is <30%, corresponding LCS recovery is 96%.

C. Metals (soil) spike recoveries for Copper and Zinc in sample 94635s at 60% and 58% respectively, corresponding lcs recoveries at 93% and 91% respectively.

D. Metals (soil) spike recoveries for Arsenic, Copper and Nickel in sample 94622s at 66%, 66% and 65% respectively, corresponding lcs recoveries at 96%, 93% and 91% respectively.

E. Phenoxy acid herbicides (soil) dalopan recovery for matrix spike Lab #94622s is 39%, corresponding LCS recovery is 35%.

F. Refer to LabMark historical control chart recovery range data. QA/QC (phenoxy acid herbicides) results reported within 3sd of the historical analyte specific mean results, and therefore considered acceptable for laboratory release.

HISTORICAL CONTROL CHART DATA - QA/QC

Sydney

Analyte mean and standard deviation

PHOXY_S

For the period: 01/01/06 12:00:00 AM to 30/12/06 11:59:59 PM

SPIKES

Analyte Name	n	Mean	1 SD	Range	2 SD	Range	3 SD	Range
2,4,5-T	7	83	16	67 to 99	32	51 to 115	48	35 to 131
2,4,5-TP (Silvex)	6	78	11	67 to 89	22	56 to 100	33	45 to 111
2,4-D	8	82	14	68 to 96	28	54 to 110	42	40 to 124
2,4-DB	7	92	18	74 to 110	36	56 to 128	54	38 to 146
3,4-DCPA (Surr @ 0.4 mg/kg)	8	79	12	67 to 91	24	55 to 103	36	43 to 115
Clopyralid	6	79	10	69 to 89	20	59 to 99	30	49 to 109
Dalapon	7	44	15	29 to 59	30	14 to 74	45	0 to 89
Dicamba	7	83	14	69 to 97	28	55 to 111	42	41 to 125
Dichlorprop	7	83	14	69 to 97	28	55 to 111	42	41 to 125
Fluxopyr	5	94	25	69 to 119	50	44 to 144	75	19 to 169
MCPA	6	87	18	69 to 105	36	51 to 123	54	33 to 141
MCPB	7	83	14	69 to 97	28	55 to 111	42	41 to 125
MCPP	7	86	18	68 to 104	36	50 to 122	54	32 to 140
o-Chlorophenoxy acid	7	88	14	74 to 102	28	60 to 116	42	46 to 130
p-Chlorophenoxy acid	7	90	24	66 to 114	48	42 to 138	72	18 to 162
Triclopyr	7	82	11	71 to 93	22	60 to 104	33	49 to 115

LCS_S

Analyte Name	n	Mean	1 SD	Range	2 SD	Range	3 SD	Range
2,4,5-T	34	86	12	74 to 98	24	62 to 110	36	50 to 122
2,4,5-TP (Silvex)	34	85	12	73 to 97	24	61 to 109	36	49 to 121
2,4-D	35	86	13	73 to 99	26	60 to 112	39	47 to 125
2,4-DB	34	83	11	72 to 94	22	61 to 105	33	50 to 116
3,4-DCPA (Surr @ 0.4 mg/kg)	35	85	11	74 to 96	22	63 to 107	33	52 to 118
Clopyralid	34	82	14	68 to 96	28	54 to 110	42	40 to 124
Dalapon	33	43	17	26 to 60	34	9 to 77	51	0 to 94
Dicamba	34	86	16	70 to 102	32	54 to 118	48	38 to 134
Dichlorprop	34	85	13	72 to 98	26	59 to 111	39	46 to 124
Fluxopyr	34	79	14	65 to 93	28	51 to 107	42	37 to 121
MCPA	34	84	14	70 to 98	28	56 to 112	42	42 to 126
MCPB	34	81	10	71 to 91	20	61 to 101	30	51 to 111
MCPP	34	79	13	66 to 92	26	53 to 105	39	40 to 118
o-Chlorophenoxy acid	34	79	13	66 to 92	26	53 to 105	39	40 to 118
p-Chlorophenoxy acid	34	82	15	67 to 97	30	52 to 112	45	37 to 127
Triclopyr	34	86	13	73 to 99	26	60 to 112	39	47 to 125

Laboratory Report No: E032497
Client Name: HLA - Envirosciences Pty Limited
Contact Name: Alex Latham
Client Reference Horsely Park S4074204

Page: 1 of 30
plus cover page
Date: 19/06/07
This report supercedes reports issued on: 18/06/07

Final
Certificate
of Analysis

Laboratory Identification		94565	94568	94571	94574	94577	94580	94583	94586	94589	94592
Sample Identification		TP01	TP02	TP03	TP04	TP05	TP06	TP07	TP08	TP09	TP10
Depth (m)		0.1-0.2	0.1-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Sum of TPH C10 - C36	--	--	--	--	--	--	--	--	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Laboratory Identification		**94595**	**94598**	**94601**	**94604**	**94607**	**94610**	**94613**	**94616**	**94619**	**94622**
Sample Identification		TP11	TP12	TP13	TP14	TP15	TP16	TP17	TP18	TP19	TP20
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	100	<100	<100	<100	130	<100	110	<100	<100	<100	<100
Sum of TPH C10 - C36	--	--	--	--	130	--	110	--	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Laboratory Identification		94625	94628	94631	94634	94637	94640	94641	94565d	94565r	94595d
Sample Identification		TP21	TP22	TP23	TP24	TP25	DUP01	DUP02	QC	QC	QC
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	14/6/07	--	14/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	--	15/6/07
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	--	<50
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100
C29 - C36 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	--	<100
Sum of TPH C10 - C36	--	--	--	--	--	--	--	--	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Laboratory Identification		94595r	94616d	94616r	94568s	94622s	lcs	lcs	mb	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		--	14/6/07	--	14/6/07	14/6/07	14/6/07	15/6/07	14/6/07	15/6/07	
Laboratory Analysis Date		--	15/6/07	--	15/6/07	15/6/07	14/6/07	16/6/07	14/6/07	16/6/07	
Method : E006.2											
Petroleum Hydrocarbons (TPH)	**EQL**										
C10 - C14 Fraction	50	--	<50	--	--	--	--	--	<50	<50	
C15 - C28 Fraction	100	--	<100	--	92%	110%	89%	110%	<100	<100	
C29 - C36 Fraction	100	--	<100	--	--	--	--	--	<100	<100	
Sum of TPH C10 - C36	--	--	--	--	--	--	--	--	--	--	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Laboratory Identification		**94565**	**94568**	**94571**	**94574**	**94577**	**94580**	**94583**	**94586**	**94589**	**94592**
Sample Identification		TP01	TP02	TP03	TP04	TP05	TP06	TP07	TP08	TP09	TP10
Depth (m)		0.1-0.2	0.1-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(k)fluoranthene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PAHs	--	--	--	--	--	--	--	--	--	--	--
2-FBP (Surr @ 5mg/kg)	--	*122%*	*130%*	*115%*	*127%*	*121%*	*129%*	*115%*	*119%*	*116%*	*128%*
TP-d14 (Surr @ 5mg/kg)	--	*119%*	*130%*	*118%*	*121%*	*130%*	*109%*	*112%*	*110%*	*130%*	*115%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification		94595	94598	94601	94604	94607	94610	94613	94616	94619	94622
Sample Identification		TP11	TP12	TP13	TP14	TP15	TP16	TP17	TP18	TP19	TP20
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)&(k)fluoranthene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PAHs	--	--	--	--	--	--	--	--	--	--	--
2-FBP (Surr @ 5mg/kg)	--	*126%*	*123%*	*120%*	*124%*	*123%*	*124%*	*124%*	*119%*	*120%*	*127%*
TP-d14 (Surr @ 5mg/kg)	--	*110%*	*115%*	*94%*	*95%*	*97%*	*126%*	*123%*	*108%*	*109%*	*122%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification		94625	94628	94631	94634	94637	94640	94641	94565d	94565r	94595d
Sample Identification		TP21	TP22	TP23	TP24	TP25	DUP01	DUP02	QC	QC	QC
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	14/6/07	--	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	--	16/6/07
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Phenanthrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Fluoranthene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Benzo(b)&(k)fluoranthene	1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1
Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Sum of reported PAHs	--	--	--	--	--	--	--	--	--	--	--
2-FBP (Surr @ 5mg/kg)	--	*122%*	*114%*	*104%*	*115%*	*104%*	*114%*	*111%*	*126%*	*3%*	*122%*
TP-d14 (Surr @ 5mg/kg)	--	*112%*	*120%*	*96%*	*104%*	*96%*	*110%*	*96%*	*103%*	*14%*	*111%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification		94595r	94616d	94616r	94568s	94622s	lcs	lcs	mb	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		--	14/6/07	--	14/6/07	14/6/07	14/6/07	15/6/07	14/6/07	15/6/07	
Laboratory Analysis Date		--	16/6/07	--	16/6/07	16/6/07	15/6/07	16/6/07	15/6/07	16/6/07	
Method : E007.2											
Polyaromatic Hydrocarbons (PAH)	**EQL**										
Naphthalene	0.5	--	<0.5	--	107%	116%	94%	114%	<0.5	<0.5	
Acenaphthylene	0.5	--	<0.5	--	101%	105%	100%	116%	<0.5	<0.5	
Acenaphthene	0.5	--	<0.5	--	95%	99%	98%	121%	<0.5	<0.5	
Fluorene	0.5	--	<0.5	--	97%	110%	98%	113%	<0.5	<0.5	
Phenanthrene	0.5	--	<0.5	--	109%	105%	104%	113%	<0.5	<0.5	
Anthracene	0.5	--	<0.5	--	115%	110%	103%	123%	<0.5	<0.5	
Fluoranthene	0.5	--	<0.5	--	99%	93%	95%	122%	<0.5	<0.5	
Pyrene	0.5	--	<0.5	--	117%	96%	96%	121%	<0.5	<0.5	
Benz(a)anthracene	0.5	--	<0.5	--	106%	91%	96%	124%	<0.5	<0.5	
Chrysene	0.5	--	<0.5	--	102%	107%	100%	119%	<0.5	<0.5	
Benzo(b)&(k)fluoranthene	1	--	<1	--	108%	116%	103%	126%	<1	<1	
Benzo(a) pyrene	0.5	--	<0.5	--	100%	97%	95%	129%	<0.5	<0.5	
Indeno(1,2,3-c,d)pyrene	0.5	--	<0.5	--	97%	84%	85%	129%	<0.5	<0.5	
Dibenz(a,h)anthracene	0.5	--	<0.5	--	107%	87%	93%	121%	<0.5	<0.5	
Benzo(g,h,i)perylene	0.5	--	<0.5	--	97%	88%	95%	120%	<0.5	<0.5	
Sum of reported PAHs	--	--	--	--	--	--	--	--	--	--	
2-FBP (Surr @ 5mg/kg)	--	*3%*	*125%*	*5%*	*117%*	*120%*	*105%*	*111%*	*109%*	*113%*	
TP-d14 (Surr @ 5mg/kg)	--	*1%*	*104%*	*4%*	*102%*	*108%*	*101%*	*120%*	*107%*	*117%*	

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification		94565	94568	94571	94574	94577	94580	94583	94586	94589	94592
Sample Identification		TP01	TP02	TP03	TP04	TP05	TP06	TP07	TP08	TP09	TP10
Depth (m)		0.1-0.2	0.1-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E013.2											
Organochlorine Pesticides (OC)	**EQL**										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	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)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	*112%*	*109%*	*115%*	*119%*	*107%*	*114%*	*108%*	*106%*	*107%*	*108%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/dual ECD.

Laboratory Identification		94595	94598	94601	94604	94607	94610	94613	94616	94619	94622
Sample Identification		TP11	TP12	TP13	TP14	TP15	TP16	TP17	TP18	TP19	TP20
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E013.2											
Organochlorine Pesticides (OC)	**EQL**										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	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)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	*106%*	*116%*	*118%*	*103%*	*112%*	*105%*	*112%*	*111%*	*103%*	*114%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/dual ECD.

Laboratory Identification		94625	94628	94631	94634	94637	94640	94641	94565d	94565r	94595d
Sample Identification		TP21	TP22	TP23	TP24	TP25	DUP01	DUP02	QC	QC	QC
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	14/6/07	--	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	--	16/6/07
Method : E013.2											
Organochlorine Pesticides (OC)	**EQL**										
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Dieldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2
DBC (Surr @ 0.2mg/kg)	--	*116%*	*115%*	*117%*	*117%*	*116%*	*115%*	*111%*	*107%*	*5%*	*110%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/dual ECD.

Laboratory Identification		94595r	94616d	94616r	94568s	94622s	lcs	lcs	mb	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		--	14/6/07	--	14/6/07	14/6/07	14/6/07	15/6/07	14/6/07	15/6/07	
Laboratory Analysis Date		--	16/6/07	--	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	
Method : E013.2											
Organochlorine Pesticides (OC)	**EQL**										
a-BHC	0.05	--	<0.05	--	95%	107%	102%	104%	<0.05	<0.05	
Hexachlorobenzene	0.05	--	<0.05	--	99%	110%	105%	106%	<0.05	<0.05	
b-BHC	0.05	--	<0.05	--	104%	112%	105%	107%	<0.05	<0.05	
g-BHC (Lindane)	0.05	--	<0.05	--	102%	111%	105%	107%	<0.05	<0.05	
d-BHC	0.05	--	<0.05	--	105%	113%	105%	108%	<0.05	<0.05	
Heptachlor	0.05	--	<0.05	--	100%	107%	103%	102%	<0.05	<0.05	
Aldrin	0.05	--	<0.05	--	97%	106%	101%	108%	<0.05	<0.05	
Heptachlor epoxide	0.05	--	<0.05	--	98%	106%	105%	104%	<0.05	<0.05	
trans-chlordane	0.05	--	<0.05	--	98%	107%	102%	103%	<0.05	<0.05	
Endosulfan I	0.05	--	<0.05	--	94%	105%	101%	104%	<0.05	<0.05	
cis-chlordane	0.05	--	<0.05	--	95%	106%	101%	104%	<0.05	<0.05	
Dieldrin	0.05	--	<0.05	--	96%	106%	102%	105%	<0.05	<0.05	
4,4-DDE	0.05	--	<0.05	--	96%	106%	101%	103%	<0.05	<0.05	
Endrin	0.05	--	<0.05	--	98%	107%	103%	105%	<0.05	<0.05	
Endosulfan II	0.05	--	<0.05	--	98%	108%	103%	106%	<0.05	<0.05	
4,4-DDD	0.05	--	<0.05	--	108%	120%	108%	113%	<0.05	<0.05	
Endosulfan sulphate	0.05	--	<0.05	--	112%	120%	118%	121%	<0.05	<0.05	
4,4-DDT	0.2	--	<0.2	--	99%	100%	105%	108%	<0.2	<0.2	
Methoxychlor	0.2	--	<0.2	--	103%	104%	108%	111%	<0.2	<0.2	
DBC (Surr @ 0.2mg/kg)	--	*4%*	*102%*	*8%*	*105%*	*102%*	*104%*	*109%*	*101%*	*112%*	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/dual ECD.

Laboratory Identification		**94565**	**94568**	**94571**	**94574**	**94577**	**94580**	**94583**	**94586**	**94589**	**94592**
Sample Identification		TP01	TP02	TP03	TP04	TP05	TP06	TP07	TP08	TP09	TP10
Depth (m)		0.1-0.2	0.1-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E014.2											
Organophosphorus Pesticides (OP)	**EQL**										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	*130%*	*126%*	*127%*	*120%*	*125%*	*120%*	*125%*	*122%*	*129%*	*130%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/MSD.

Laboratory Identification		**94595**	**94598**	**94601**	**94604**	**94607**	**94610**	**94613**	**94616**	**94619**	**94622**
Sample Identification		TP11	TP12	TP13	TP14	TP15	TP16	TP17	TP18	TP19	TP20
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E014.2											
Organophosphorus Pesticides (OP)	**EQL**										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	*107%*	*129%*	*98%*	*114%*	*110%*	*126%*	*109%*	*114%*	*99%*	*120%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/MSD.

Laboratory Identification		**94625**	**94628**	**94631**	**94634**	**94637**	**94640**	**94641**	**94565d**	**94565r**	**94595d**
Sample Identification		TP21	TP22	TP23	TP24	TP25	DUP01	DUP02	QC	QC	QC
Depth (m)		0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	14/6/07	--	14/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	--	16/6/07
Method : E014.2											
Organophosphorus Pesticides (OP)	**EQL**										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	--	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5
TPP (Surr @ 2mg/kg)	--	*107%*	*114%*	*88%*	*86%*	*79%*	*105%*	*87%*	*127%*	*2%*	*129%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/MSD.

Laboratory Identification		94595r	94616d	94616r	94568s	94622s	lcs	lcs	mb	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		--	14/6/07	--	14/6/07	14/6/07	14/6/07	15/6/07	14/6/07	15/6/07	
Laboratory Analysis Date		--	16/6/07	--	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	
Method : E014.2											
Organophosphorus Pesticides (OP)	**EQL**										
Dichlorvos	0.5	--	<0.5	--	120%	121%	115%	124%	<0.5	<0.5	
Mevinphos (Phosdrin)	0.5	--	<0.5	--	100%	100%	92%	103%	<0.5	<0.5	
Demeton (total)	1	--	<1	--	111%	117%	109%	122%	<1	<1	
Ethoprop	0.5	--	<0.5	--	125%	127%	124%	126%	<0.5	<0.5	
Monocrotophos	0.5	--	<0.5	--	88%	100%	88%	88%	<0.5	<0.5	
Phorate	0.5	--	<0.5	--	110%	113%	109%	121%	<0.5	<0.5	
Dimethoate	0.5	--	<0.5	--	111%	118%	104%	127%	<0.5	<0.5	
Diazinon	0.5	--	<0.5	--	100%	104%	96%	115%	<0.5	<0.5	
Disulfoton	0.5	--	<0.5	--	112%	118%	103%	126%	<0.5	<0.5	
Methyl parathion	0.5	--	<0.5	--	115%	115%	102%	118%	<0.5	<0.5	
Ronnel	0.5	--	<0.5	--	101%	106%	94%	119%	<0.5	<0.5	
Fenitrothion	0.5	--	<0.5	--	109%	112%	99%	121%	<0.5	<0.5	
Malathion	0.5	--	<0.5	--	112%	116%	105%	123%	<0.5	<0.5	
Chlorpyrifos	0.5	--	<0.5	--	106%	109%	97%	118%	<0.5	<0.5	
Fenthion	0.5	--	<0.5	--	117%	121%	108%	127%	<0.5	<0.5	
Parathion	0.5	--	<0.5	--	120%	122%	110%	126%	<0.5	<0.5	
Stirofos	0.5	--	<0.5	--	113%	118%	103%	119%	<0.5	<0.5	
Prothiofos	0.5	--	<0.5	--	115%	118%	106%	124%	<0.5	<0.5	
Azinophos methyl	0.5	--	<0.5	--	114%	112%	101%	118%	<0.5	<0.5	
Coumaphos	0.5	--	<0.5	--	121%	116%	111%	124%	<0.5	<0.5	
TPP (Surr @ 2mg/kg)	--	*19%*	*86%*	*28%*	*82%*	*84%*	*85%*	*113%*	*102%*	*116%*	

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml hexane/acetone (1:1). Analysis by GC/MSD.

Laboratory Identification		94565	94566	94568	94569	94571	94572	94574	94577	94580	94581
Sample Identification		TP01	TP01	TP02	TP02	TP03	TP03	TP04	TP05	TP06	TP06
Depth (m)		0.1-0.2	0.5-0.6	0.1-0.2	0.5-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.4-0.6
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	0.11	0.05	0.1	0.12	0.10	0.06	0.09	0.1	0.14	0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		94583	94586	94587	94589	94592	94593	94595	94596	94598	94601
Sample Identification		TP07	TP08	TP08	TP09	TP10	TP10	TP11	TP11	TP12	TP13
Depth (m)		0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	0.07	0.08	<0.05	0.09	0.22	<0.05	0.13	0.07	0.06	0.17

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		94604	94605	94607	94610	94611	94613	94616	94619	94622	94625
Sample Identification		TP14	TP14	TP15	TP16	TP16	TP17	TP18	TP19	TP20	TP21
Depth (m)		0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	18/6/07	18/6/07	18/6/07
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	0.36	0.06	0.16	0.43	0.05	0.05	0.13	0.09	0.05	0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		94626	94628	94629	94631	94634	94635	94637	94640	94641	94643
Sample Identification		TP21	TP22	TP22	TP23	TP24	TP24	TP25	DUP01	DUP02	DUP06
Depth (m)		0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	<0.05	0.05	<0.05	0.06	0.06	<0.05	0.08	0.06	<0.05	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		94644	94565d	94565r	94581d	94581r	94595d	94595r	94616d	94616r	94629d
Sample Identification		DUP07	QC	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	--	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07
Laboratory Analysis Date		18/6/07	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07	--	18/6/07
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	<0.05	0.09	20%	0.05	0%	0.12	8%	0.12	8%	<0.05

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification		94629r	94568s	94622s	94635s	crm	lcs	mb			
Sample Identification		QC	QC	QC	QC	QC	QC	QC			
Depth (m)		--	--	--	--	--	--	--			
Sampling Date recorded on COC		--	--	--	--	--	--	--			
Laboratory Extraction (Preparation) Date		--	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07			
Laboratory Analysis Date		--	15/6/07	18/6/07	18/6/07	15/6/07	15/6/07	15/6/07			
Method : E026.2											
Acid extractable mercury	**EQL**										
Mercury	0.05	--	105%	93%	93%	106%	97%	<0.05			

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Final
Certificate of Analysis

Laboratory Identification		94565	94566	94568	94569	94571	94572	94574	94577	94580	94581
Sample Identification		TP01	TP01	TP02	TP02	TP03	TP03	TP04	TP05	TP06	TP06
Depth (m)		0.1-0.2	0.5-0.6	0.1-0.2	0.5-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.4-0.6
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	5	8	5	5	4	5	4	4	3	4
Barium	5	87	110	220	140	63	160	90	110	88	130
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	13	14	15	12	6	7	14	14	16	18
Copper	2	10	23	24	25	7	12	14	19	20	16
Lead	2	21	14	23	12	10	8	16	18	17	15
Manganese	5	1280	69	1350	57	280	24	920	1530	1030	190
Nickel	1	5	5	10	9	2	2	7	11	7	7
Zinc	5	18	34	46	52	7	9	16	26	22	14

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**94583**	**94586**	**94587**	**94589**	**94592**	**94593**	**94595**	**94596**	**94598**	**94601**
Sample Identification		TP07	TP08	TP08	TP09	TP10	TP10	TP11	TP11	TP12	TP13
Depth (m)		0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	2	3	3	2	4	5	6	6	3	6
Barium	5	61	100	35	37	150	210	170	260	96	79
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1
Chromium	1	8	10	14	11	34	39	22	19	13	17
Copper	2	8	11	16	11	38	22	29	20	10	41
Lead	2	9	12	9	10	18	18	22	21	11	17
Manganese	5	540	1350	19	110	560	270	920	160	650	1040
Nickel	1	4	6	5	3	11	13	11	16	7	9
Zinc	5	12	14	8	19	68	20	49	40	13	51

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		94604	94605	94607	94610	94611	94613	94616	94619	94622	94625
Sample Identification		TP14	TP14	TP15	TP16	TP16	TP17	TP18	TP19	TP20	TP21
Depth (m)		0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	16/6/07	16/6/07	16/6/07
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	5	3	5	5	4	3	6	4	4	4
Barium	5	360	190	140	160	370	59	180	150	400	85
Cadmium	0.1	0.3	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	32	17	21	25	15	10	18	23	80	10
Copper	2	83	42	41	72	20	7	21	22	22	11
Lead	2	27	12	23	29	13	10	22	18	12	15
Manganese	5	570	51	1940	2100	120	410	1230	740	1410	970
Nickel	1	14	16	14	14	11	3	8	13	35	7
Zinc	5	140	71	61	130	44	8	35	37	34	18

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		94626	94628	94629	94631	94634	94635	94637	94640	94641	94643
Sample Identification		TP21	TP22	TP22	TP23	TP24	TP24	TP25	DUP01	DUP02	DUP06
Depth (m)		0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07	16/6/07
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	5	5	6	5	5	15	5	6	3	6
Barium	5	55	99	67	78	110	23	130	96	64	110
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	13	10	13	13	15	32	14	17	10	11
Copper	2	15	12	14	10	11	14	22	12	8	11
Lead	2	12	13	17	17	14	12	16	22	11	14
Manganese	5	120	1600	990	1700	1380	74	730	1410	910	2070
Nickel	1	6	6	7	8	5	3	7	7	4	8
Zinc	5	10	16	21	24	16	12	34	16	11	24

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		94644	94565d	94565r	94581d	94581r	94595d	94595r	94616d	94616r	94629d
Sample Identification		DUP07	QC	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	--	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07
Laboratory Analysis Date		16/6/07	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07	--	16/6/07
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	7	4	22%	4	0%	6	0%	5	18%	6
Barium	5	60	81	7%	100	26%	180	6%	180	0%	66
Cadmium	0.1	<0.1	<0.1	--	<0.1	--	<0.1	--	<0.1	--	<0.1
Chromium	1	16	11	17%	19	5%	20	10%	16	12%	13
Copper	2	14	11	10%	16	0%	27	7%	22	5%	14
Lead	2	16	17	21%	16	6%	21	5%	19	15%	17
Manganese	5	800	1070	18%	160	17%	1010	9%	1060	15%	1020
Nickel	1	7	5	0%	6	15%	11	0%	8	0%	6
Zinc	5	21	20	11%	11	24%	47	4%	33	6%	20

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		94629r	94568s	94622s	94635s	crm	lcs	mb			
Sample Identification		QC	QC	QC	QC	QC	QC	QC			
Depth (m)		--	--	--	--	--	--	--			
Sampling Date recorded on COC		--	--	--	--	--	--	--			
Laboratory Extraction (Preparation) Date		--	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07			
Laboratory Analysis Date		--	15/6/07	16/6/07	16/6/07	15/6/07	15/6/07	15/6/07			
Method : E022.2											
Acid extractable metals	**EQL**										
Arsenic	1	0%	97%	66%	*	92%	96%	<1			
Barium	5	2%	#	#	109%	84%	104%	<5			
Cadmium	0.1	--	107%	96%	94%	96%	102%	<0.1			
Chromium	1	0%	93%	#	74%	86%	92%	<1			
Copper	2	0%	83%	66%	60%	87%	93%	<2			
Lead	2	0%	99%	96%	71%	95%	105%	<2			
Manganese	5	3%	#	#	#	80%	92%	<5			
Nickel	1	15%	92%	65%	85%	92%	91%	<1			
Zinc	5	5%	73%	70%	58%	85%	91%	<5			

Results expressed in mg/kg dry weight unless otherwise specified

Comments: * Refer to comment in DQO certificate. # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification		**94565**	**94574**	**94580**	**94583**	**94592**	**94598**	**94607**	**94616**	**94622**	**94637**
Sample Identification		TP01	TP04	TP06	TP07	TP10	TP12	TP15	TP18	TP20	TP25
Depth (m)		0.1-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	15/6/07
Laboratory Analysis Date		19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07	19/6/07
Method : E024.2											
Phenoxy Acid Herbicides	**EQL**										
Dalapon	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Clopyralid	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o-Chlorophenoxy acid	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Chlorophenoxy acid	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dicamba	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MCPP	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MCPA	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorprop	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-D	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Triclopyr	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-TP (Silvex)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MCPB	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-T	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluxopyr	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-DB	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3,4-DCPA (Surr @ 0.4 mg/kg)	--	*70%*	*83%*	*83%*	*90%*	*73%*	*84%*	*87%*	*87%*	*80%*	*94%*

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E024.2: 8-10g soil extracted with 20ml DCM/acetone (8:2) followed by methylation. Analysis by GC/MS.

Laboratory Identification		**94640**	**94565d**	**94565r**	**94616d**	**94616r**	**94622s**	**lcs**	**mb**		
Sample Identification		DUP01	QC	QC	QC	QC	QC	QC	QC		
Depth (m)		--	--	--	--	--	--	--	--		
Sampling Date recorded on COC		13/6/07	--	--	--	--	--	--	--		
Laboratory Extraction (Preparation) Date		15/6/07	14/6/07	--	14/6/07	--	14/6/07	14/6/07	14/6/07		
Laboratory Analysis Date		19/6/07	19/6/07	--	19/6/07	--	19/6/07	18/6/07	19/6/07		
Method : E024.2											
Phenoxy Acid Herbicides	**EQL**										
Dalapon	0.1	<0.1	<0.1	--	<0.1	--	39%	35%	<0.1		
Clopyralid	0.1	<0.1	<0.1	--	<0.1	--	95%	69%	<0.1		
o-Chlorophenoxy acid	0.1	<0.1	<0.1	--	<0.1	--	78%	80%	<0.1		
p-Chlorophenoxy acid	0.1	<0.1	<0.1	--	<0.1	--	77%	73%	<0.1		
Dicamba	0.1	<0.1	<0.1	--	<0.1	--	99%	94%	<0.1		
MCPP	0.1	<0.1	<0.1	--	<0.1	--	86%	89%	<0.1		
MCPA	0.1	<0.1	<0.1	--	<0.1	--	78%	85%	<0.1		
Dichlorprop	0.1	<0.1	<0.1	--	<0.1	--	83%	93%	<0.1		
2,4-D	0.1	<0.1	<0.1	--	<0.1	--	77%	84%	<0.1		
Triclopyr	0.1	<0.1	<0.1	--	<0.1	--	77%	93%	<0.1		
2,4,5-TP (Silvex)	0.1	<0.1	<0.1	--	<0.1	--	87%	92%	<0.1		
MCPB	0.1	<0.1	<0.1	--	<0.1	--	88%	82%	<0.1		
2,4,5-T	0.1	<0.1	<0.1	--	<0.1	--	70%	87%	<0.1		
Fluxopyr	0.1	<0.1	<0.1	--	<0.1	--	72%	74%	<0.1		
2,4-DB	0.1	<0.1	<0.1	--	<0.1	--	96%	83%	<0.1		
3,4-DCPA (Surr @ 0.4 mg/kg)	--	*85%*	*92%*	*27%*	*94%*	*8%*	*80%*	*99%*	*80%*		

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E024.2: 8-10g soil extracted with 20ml DCM/acetone (8:2) followed by methylation. Analysis by GC/MS.

Laboratory Identification		94565	94566	94568	94569	94571	94572	94574	94577	94580	94581
Sample Identification		TP01	TP01	TP02	TP02	TP03	TP03	TP04	TP05	TP06	TP06
Depth (m)		0.1-0.2	0.5-0.6	0.1-0.2	0.5-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.4-0.6
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E005.2											
Moisture	**EQL**										
Moisture	--	16	15	21	16	17	18	22	22	23	17

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		94583	94586	94587	94589	94592	94593	94595	94596	94598	94601
Sample Identification		TP07	TP08	TP08	TP09	TP10	TP10	TP11	TP11	TP12	TP13
Depth (m)		0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Method : E005.2											
Moisture	**EQL**										
Moisture	--	22	18	18	21	15	13	20	16	19	19

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		94604	94605	94607	94610	94611	94613	94616	94619	94622	94625
Sample Identification		TP14	TP14	TP15	TP16	TP16	TP17	TP18	TP19	TP20	TP21
Depth (m)		0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2
Sampling Date recorded on COC		13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	15/6/07
Laboratory Analysis Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	18/6/07	18/6/07	18/6/07
Method : E005.2											
Moisture	**EQL**										
Moisture	--	22	18	24	22	19	17	20	22	17	22

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		94626	94628	94629	94631	94634	94635	94637	94640	94641	94643
Sample Identification		TP21	TP22	TP22	TP23	TP24	TP24	TP25	DUP01	DUP02	DUP06
Depth (m)		0.4-0.6	0.0-0.2	0.4-0.6	0.0-0.2	0.0-0.2	0.4-0.6	0.0-0.2	--	--	--
Sampling Date recorded on COC		14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	14/6/07	13/6/07	13/6/07	14/6/07
Laboratory Extraction (Preparation) Date		15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07	15/6/07
Laboratory Analysis Date		18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07	18/6/07
Method : E005.2											
Moisture	**EQL**										
Moisture	--	18	16	15	18	19	16	17	20	22	16

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		94644	94565d	94565r	94581d	94581r	94595d	94595r	94616d	94616r	94629d
Sample Identification		DUP07	QC	QC	QC	QC	QC	QC	QC	QC	QC
Depth (m)		--	--	--	--	--	--	--	--	--	--
Sampling Date recorded on COC		14/6/07	--	--	--	--	--	--	--	--	--
Laboratory Extraction (Preparation) Date		15/6/07	14/6/07	--	14/6/07	--	14/6/07	--	14/6/07	--	15/6/07
Laboratory Analysis Date		18/6/07	15/6/07	--	15/6/07	--	15/6/07	--	15/6/07	--	18/6/07
Method : E005.2											
Moisture	**EQL**										
Moisture	--	15	16	0%	16	6%	18	11%	20	0%	15

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Identification		94629r	94568s	94622s							
Sample Identification		QC	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		--	--	--							
Laboratory Extraction (Preparation) Date		--	14/6/07	14/6/07							
Laboratory Analysis Date		--	15/6/07	18/6/07							
Method : E005.2											
Moisture	**EQL**										
Moisture	--	0%	--	--							

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample Receipt Notice (SRN) for E032497

Client Details		Laboratory Reference Information	
Client Name:	HLA - Envirosciences Pty Limited	**Please have this information ready when contacting Labmark.**	
Client Phone:	02 8484 8999		
Client Fax:	02 8484 8989	**Laboratory Report:**	**E032497**
Contact Name:	Alex Latham	**Quotation Number:**	- Not provided, standard prices apply
Contact Email:	alatham@syd.hla-enviro.com.au	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Client Address:	PO Box 726 Pymble NSW 2073	**Phone:**	61 2 9476 6533
		Fax:	61 2 9476 8219
Project Name:	Horsely Park	**Sample Receipt Contact:**	Jakleen El Galada
Project Number:	S4074204	**Email:**	jakleen.galada@labmark.com.au
CoC Number:	- Not provided -	**Reporting Contact:**	Jyothi Lal
Purchase Order:	150662	**Email:**	jyothi.lal@labmark.com.au
Surcharge:	50% for 2 working days TAT (pro-rata for completed results by 6:30pm on due date)		
Sample Matrix:	SOIL		
Date Sampled (earliest date):	13/06/2007	**NATA Accreditation:**	13542
Date Samples Received:	14/06/2007	**TGA GMP License:**	185-336 (Sydney)
Date Sample Receipt Notice issued:	14/06/2007	**APVMA License:**	6105 (Sydney)
Date Preliminary Report Due:	18/06/2007	**AQIS Approval:**	NO356 (Sydney)
		AQIS Entry Permit:	200521534 (Sydney)

Reporting Requirements: Electronic Data Download required:yes

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not required. Direct Labmark's custody taken .
Sample container & chemical preservation suitable .

Comments: Sample DUP03 and DUP 05 forwarded to ALS.

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:
LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of $1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample **Receipt** Notice (SRN) for **E032497**

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request. Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: Acid extractable mercury	HOLD ON HOLD	Acid extractable metals	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Phenoxy Acid Herbicides	PREP Not Reported	Petroleum Hydrocarbons (TPH)
94565	13/06	0.1-0.2	TP01	●		●	●	●	●	●	●	●	●
94566	13/06	0.5-0.6	TP01	●		●	●					●	
94567	13/06	0.8-1.0	TP01		●								
94568	13/06	0.1-0.2	TP02	●		●	●	●	●	●		●	●
94569	13/06	0.5-0.6	TP02	●		●	●					●	
94570	13/06	0.9-1.0	TP02		●								
94571	13/06	0.0-0.2	TP03	●		●	●	●	●	●		●	●
94572	13/06	0.4-0.6	TP03	●		●	●					●	
94573	13/06	0.8-1.0	TP03		●								
94574	13/06	0.0-0.2	TP04	●		●	●	●	●	●	●	●	●
94575	13/06	0.4-0.6	TP04		●								
94576	13/06	0.8-1.0	TP04		●								
94577	13/06	0.0-0.2	TP05	●		●	●	●	●	●		●	●
94578	13/06	0.4-0.6	TP05		●								
94579	13/06	0.8-1.0	TP05		●								
94580	13/06	0.0-0.2	TP06	●		●	●	●	●	●	●	●	●
94581	13/06	0.4-0.6	TP06	●		●	●					●	
94582	13/06	0.8-1.0	TP06		●								
94583	13/06	0.0-0.2	TP07	●		●	●	●	●	●	●	●	●
94584	13/06	0.4-0.6	TP07		●								
94585	13/06	0.8-1.0	TP07		●								
94586	13/06	0.0-0.2	TP08	●		●	●	●	●	●		●	●
94587	13/06	0.4-0.6	TP08	●		●	●					●	
94588	13/06	0.8-1.0	TP08		●								
94589	13/06	0.0-0.2	TP09	●		●	●	●	●	●		●	●
94590	13/06	0.4-0.6	TP09		●								
94591	13/06	0.8-1.0	TP09		●								
94592	13/06	0.0-0.2	TP10	●		●	●	●	●	●	●	●	●
94593	13/06	0.4-0.6	TP10	●		●	●					●	
94594	13/06	0.8-1.0	TP10		●								
94595	13/06	0.0-0.2	TP11	●		●	●	●	●	●		●	●
94596	13/06	0.4-0.6	TP11	●		●	●					●	

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

LabMark

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample **Receipt** Notice (SRN) for **E032497**

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request. Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

				Requested Analysis																			
No.	**Date**	**Depth**	**Client Sample ID**	Acid extractable mercury	HOLD ON HOLD	Acid extractable metals	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Phenoxy Acid Herbicides	PREP Not Reported	Petroleum Hydrocarbons (TPH)										
94597	13/06	0.8-1.0	TP11		●																		
94598	13/06	0.0-0.2	TP12	●		●	●	●	●	●	●	●	●										
94599	13/06	0.4-0.6	TP12		●																		
94600	13/06	0.8-1.0	TP12		●																		
94601	13/06	0.0-0.2	TP13	●		●	●	●	●	●		●	●										
94602	13/06	0.4-0.6	TP13		●																		
94603	13/06	0.8-1.0	TP13		●																		
94604	13/06	0.0-0.2	TP14	●		●	●	●	●	●		●	●										
94605	13/06	0.4-0.6	TP14	●		●	●					●											
94606	13/06	0.8-1.0	TP14		●																		
94607	13/06	0.0-0.2	TP15	●		●	●	●	●	●	●	●	●										
94608	13/06	0.4-0.6	TP15		●																		
94609	13/06	0.8-1.0	TP15		●																		
94610	13/06	0.0-0.2	TP16	●		●	●	●	●	●		●	●										
94611	13/06	0.4-0.6	TP16	●		●	●					●											
94612	13/06	0.8-1.0	TP16		●																		
94613	13/06	0.0-0.2	TP17	●		●	●	●	●	●		●	●										
94614	13/06	0.4-0.6	TP17		●																		
94615	13/06	0.8-1.0	TP17		●																		
94616	13/06	0.0-0.2	TP18	●		●	●	●	●	●	●	●	●										
94617	13/06	0.4-0.6	TP18		●																		
94618	13/06	0.8-1.0	TP18		●																		
94619	13/06	0.0-0.2	TP19	●		●	●	●	●	●		●	●										
94620	13/06	0.4-0.6	TP19		●																		
94621	13/06	0.8-1.0	TP19		●																		
94622	13/06	0.0-0.2	TP20	●		●	●	●	●	●	●	●	●										
94623	13/06	0.4-0.6	TP20		●																		
94624	13/06	0.8-1.0	TP20		●																		
94625	14/06	0.0-0.2	TP21	●		●	●	●	●	●		●	●										
94626	14/06	0.4-0.6	TP21	●		●	●					●											
94627	14/06	0.8-1.0	TP21		●																		
94628	14/06	0.0-0.2	TP22	●		●	●	●	●	●		●	●										

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample **Receipt** Notice (SRN) for **E032497**

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request. Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE

No.	Date	Depth	Client Sample ID	Requested Analysis: Acid extractable mercury	HOLD ON HOLD	Acid extractable metals	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Phenoxy Acid Herbicides	PREP Not Reported	Petroleum Hydrocarbons (TPH)
94629	14/06	0.4-0.6	TP22	●		●	●					●	
94630	14/06	0.8-1.0	TP22		●								
94631	14/06	0.0-0.2	TP23	●		●	●	●	●	●		●	●
94632	14/06	0.4-0.6	TP23		●								
94633	14/06	0.8-1.0	TP23		●								
94634	14/06	0.0-0.2	TP24	●		●	●	●	●	●		●	●
94635	14/06	0.4-0.6	TP24	●		●	●					●	
94636	14/06	0.8-1.0	TP24		●								
94637	14/06	0.0-0.2	TP25	●		●	●	●	●	●	●	●	●
94638	14/06	0.4-0.6	TP25		●								
94639	14/06	0.8-1.0	TP25		●								
94640	13/06		DUP01	●		●	●	●	●	●	●	●	●
94641	13/06		DUP02	●		●	●	●	●	●		●	●
94642	13/06		DUP04		●								
94643	14/06		DUP06	●		●	●					●	
94644	14/06		DUP07	●		●	●					●	
94645	14/06		DUP08		●								
			Totals:	41	40	41	41	27	27	27	11	41	27

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample Receipt Notice (SRN) for E032497

No.	Date	Depth	Client Sample ID	Requested Analysis: M8 - MET-T_S	MET-T_S Barium	MET-T_S Manganese
94565	13/06	0.1-0.2	TP01	●	●	●
94566	13/06	0.5-0.6	TP01	●	●	●
94568	13/06	0.1-0.2	TP02	●	●	●
94569	13/06	0.5-0.6	TP02	●	●	●
94571	13/06	0.0-0.2	TP03	●	●	●
94572	13/06	0.4-0.6	TP03	●	●	●
94574	13/06	0.0-0.2	TP04	●	●	●
94577	13/06	0.0-0.2	TP05	●	●	●
94580	13/06	0.0-0.2	TP06	●	●	●
94581	13/06	0.4-0.6	TP06	●	●	●
94583	13/06	0.0-0.2	TP07	●	●	●
94586	13/06	0.0-0.2	TP08	●	●	●
94587	13/06	0.4-0.6	TP08	●	●	●
94589	13/06	0.0-0.2	TP09	●	●	●
94592	13/06	0.0-0.2	TP10	●	●	●
94593	13/06	0.4-0.6	TP10	●	●	●
94595	13/06	0.0-0.2	TP11	●	●	●
94596	13/06	0.4-0.6	TP11	●	●	●
94598	13/06	0.0-0.2	TP12	●	●	●
94601	13/06	0.0-0.2	TP13	●	●	●
94604	13/06	0.0-0.2	TP14	●	●	●
94605	13/06	0.4-0.6	TP14	●	●	●
94607	13/06	0.0-0.2	TP15	●	●	●
94610	13/06	0.0-0.2	TP16	●	●	●
94611	13/06	0.4-0.6	TP16	●	●	●
94613	13/06	0.0-0.2	TP17	●	●	●
94616	13/06	0.0-0.2	TP18	●	●	●
94619	13/06	0.0-0.2	TP19	●	●	●
94622	13/06	0.0-0.2	TP20	●	●	●
94625	14/06	0.0-0.2	TP21	●	●	●
94626	14/06	0.4-0.6	TP21	●	●	●
94628	14/06	0.0-0.2	TP22	●	●	●
94629	14/06	0.4-0.6	TP22	●	●	●

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Quality, Service, Support

Report Date : 14/06/2007
Report Time : 6:44:16PM

Sample **Receipt** Notice (SRN) for E032497

No.	Date	Depth	Client Sample ID	Requested Analysis: M8 - MET-T_S	MET-T_S Barium	MET-T_S Manganese																	
94631	14/06	0.0-0.2	TP23	●	●	●																	
94634	14/06	0.0-0.2	TP24	●	●	●																	
94635	14/06	0.4-0.6	TP24	●	●	●																	
94637	14/06	0.0-0.2	TP25	●	●	●																	
94640	13/06		DUP01	●	●	●																	
94641	13/06		DUP02	●	●	●																	
94643	14/06		DUP06	●	●	●																	
94644	14/06		DUP07	●	●	●																	
			Totals:	41	41	41																	

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

HLA

Page 1 of 7

CHAIN OF CUSTODY

HLA - Enviroscience Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel: 9476 6533
Fax 9476 8219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No. 150662

Specifications: ESDAT Format
SEND RESULTS TO A. Latham

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ____days) by COB Tues 19 June	✓
2. Fast TAT Guarantee Required?	✓
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details:)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email : alatham@hla-enviro.com.au	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: fil'ed	acid	ice	other	Container (No. & type)	Analysis Request: TPH C10-C36	Metals*	PAH's	OCP	OPP	Phenoxy Acid Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
94565	TP01_0.1-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94566	TP01_0.5-0.6	13/06/07	X					X		1 x soil Jar		✓															
94567	TP01_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94568	TP02_0.1-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94569	TP02_0.5-0.6	13/06/07	X					X		1 x soil Jar		✓															
94570	TP02_0.9-1.0	13/06/07	X					X		1 x soil Jar																	✓
94571	TP03_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94572	TP03_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓															
94573	TP03_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94574	TP04_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94575	TP04_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94576	TP04_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94577	TP05_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												

*Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments: RESULTS REQUIRED TUES 19 JUNE 07.

Lab Report No. EO32497

Esky ID

Relinquished by:	Ken Douglas-Hill	Signed:	Date: 14/6/07
Recieved by:		Signed:	Date: 14/6/07
Relinquished by:		Signed:	Date:
Recieved by:		Signed:	Date:

Field_Worksheet_FORM025_Dec04

6p

HLA

CHAIN OF CUSTODY

HLA - Envirosciences Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel: 9476 6533
Fax 9476 8219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ____ days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details:)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email: alatham@hla-enviro.com.au	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'd	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	TPH C10-36	Metals*	PAH's	OCP	OPP	Phenoxy Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
94578	TP05_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94579	TP05_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94580	TP06_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94581	TP06_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓															
94582	TP06_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94583	TP07_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94584	TP07_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94585	TP07_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94586	TP08_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94587	TP08_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓															
94588	TP08_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94589	TP09_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94590	TP09_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No. E032487

Relinquished by: Ken Douglas-Hill	Signed:	Date:	Relinquished by:	Signed:	Date:
Recieved by:	Signed: [signature]	Date: 14/6/07	Recieved by:	Signed:	Date:

6p

HLA

CHAIN OF CUSTODY

HLA - Envirosciences Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel 9476 6533
Fax 9476 8219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ______ days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: ______)	
6. Shell Quality Partnership	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email: alottiam@hla-enviro.com.au	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	~~BTEX~~ TPH C10–C36	Metals*	PAH's	OCP	OPP	~~PCB~~ Phenoxy Herb's	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	Other	Other	Other	HOLD
94591	TP09_0.8-1.0	13/06/07	X					X		1 x soil Jar																				✓
94592	TP10_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓														
94593	TP10_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓																		
94594	TP10_0.8-1.0	13/06/07	X					X		1 x soil Jar																				✓
94595	TP11_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓															
94596	TP11_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓																		
94597	TP11_0.8-1.0	13/06/07	X					X		1 x soil Jar																				✓
94598	TP12_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓														
94599	TP12_0.4-0.6	13/06/07	X					X		1 x soil Jar																				✓
94600	TP12_0.8-1.0	13/06/07	X					X		1 x soil Jar																				✓
94601	TP13_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓															
94602	TP13_0.4-0.6	13/06/07	X					X		1 x soil Jar																				✓
94603	TP13_0.8-1.0	13/06/07	X					X		1 x soil Jar																				✓

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No.: EO32497
Esdat ID:

Relinquished by: Ken Douglas-Hill	Signed:	Date:		Relinquished by:	Signed:	Date:	
Recieved by:	Signed: [signature]	Date: 14/6/07		Recieved by:	Signed:	Date:	

6P.

HLA

9 of 7

CHAIN OF CUSTODY

HLA - Envirosciences Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel: 9476 6533
Fax 9476 8219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. Is extraneous material removed from samples to be reported as per NEPM 5.1.17	
5. Special storage requirements? (details:)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email: alatham@hla-enviro.com.au	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	Analysis Request: TPH C10 – C36	Metals*	PAH's	OCP	OPP	Phenols/Phenoxy Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
94604	TP14_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94605	TP14_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓															
94606	TP14_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94607	TP15_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94608	TP15_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94609	TP15_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94610	TP16_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94611	TP16_0.4-0.6	13/06/07	X					X		1 x soil Jar		✓															
94612	TP16_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94613	TP17_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94614	TP17_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94615	TP17_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓

*Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No: E03297

Relinquished by: Ken Douglas-Hill — Signed: — Date:
Recieved by: — Signed: — Date: 14/6/07 6R

Relinquished by: — Signed: — Date:
Recieved by: — Signed: — Date:

HLA

5 of 7

CHAIN OF CUSTODY

HLA - Enviroscience Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel: 9476 6533
Fax 9476 6219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 6.1.19	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email: alatham@hla-enviro.com.au	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	TPH C10-C36	Metals*	PAHs	OCP	OPP	Phenoxy Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
94616	TP18_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94617	TP18_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94618	TP18_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94619	TP19_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94620	TP19_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94621	TP19_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94622	TP20_0.0-0.2	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94623	TP20_0.4-0.6	13/06/07	X					X		1 x soil Jar																	✓
94624	TP20_0.8-1.0	13/06/07	X					X		1 x soil Jar																	✓
94625	TP21_0.0-0.2	14/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94626	TP21_0.4-0.6	14/06/07	X					X		1 x soil Jar		✓															
94627	TP21_0.8-1.0	14/01/00	X					X		1 x soil Jar																	✓

*Metals Required (please elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No: EO2497

Relinquished by: Ken Douglas-Hill Signed: Date:
Recieved by: Signed: Date: 14/6/07 6pm

Relinquished by: Signed: Date:
Recieved by: Signed: Date:

HLA

CHAIN OF CUSTODY

HLA - Envirosciences Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel 9476 6533
Fax 9476 8219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ______ days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details:)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email : alatham@hla-enviro.com.au	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtered	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	TPH C10-C36	Metals*	PAH's	OCP	OPP	Phenoxy Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
94628	TP22_0.0-0.2	14/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94629	TP22_0.4-0.6	14/06/07	X					X		1 x soil Jar		✓															
94630	TP22_0.8-1.0	14/06/07	X					X		1 x soil Jar																	✓
94631	TP23_0.0-0.2	14/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94632	TP23_0.4-0.6	14/06/07	X					X		1 x soil Jar																	✓
94633	TP23_0.8-1.0	14/06/07	X					X		1 x soil Jar																	✓
94634	TP24_0.0-0.2	14/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓												
94635	TP24_0.4-0.6	14/06/07	X					X		1 x soil Jar		✓															
94636	TP24_0.8-1.0	14/06/07	X					X		1 x soil Jar																	✓
94637	TP25_0.0-0.2	14/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓											
94638	TP25_0.4-0.6	14/06/07	X					X		1 x soil Jar																	✓
94639	TP25_0.8-1.0	14/06/07	X					X		1 x soil Jar																	✓

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No. E032197

Relinquished by:	Ken Douglas-Hill	Signed:	Date:	Relinquished by:		Signed:	Date:
Recieved by:		Signed: [signature]	Date: 14/6/07 6pm	Recieved by:		Signed:	Date:

HLA

7 of 7 **CHAIN OF CUSTODY**

HLA - Envirosciences Pty Limited - Sydney
Level 5, 828 Pacific Hwy
PO Box 726 Pymble NSW 2073
Gordon NSW 2072 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail: mail@syd.hla-enviro.com.au

Laboratory Details
Lab Name: Labmark
Lab Address: Asquith
Contact Name:
Lab. Ref:
Tel: 9476 6533
Fax 9476 6219
Preliminary Report by:
Final Report by:
Lab Quote No:

Sampled By: Ken Douglas-Hill
HLA Project No: S4074204
Project Name: Horsely Park
PO No.

Specifications: ESDAT Format

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ______ days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: ______)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☐ Email : alatham@hla-enviro.com.au	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: other	Preservation: filt'ed	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	~~BTEX~~ TPH C10-C36	Metals*	PAH's	OCP	OPP	~~PCB~~ Phenoxy Herbs	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other				HOLD
94640	DUP01	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓	✓														
94641	DUP02	13/06/07	X					X		1 x soil Jar	✓	✓	✓	✓	✓															
ALS	DUP03	13/06/07	X					X		1 x soil Jar		SEND TO ALS.																		
94642	DUP04	13/06/07	X					X		1 x soil Jar																				✓
ALS	DUP05	13/06/07	X					X		1 x soil Jar		SEND TO ALS.																		
94643	DUP06	14/06/07	X					X		1 x soil Jar		✓																		
94644	DUP07	14/06/07	X					X		1 x soil Jar		✓																		
94645	DUP08	14/06/07	X					X		1 x soil Jar																				✓

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments:

Lab Report No. / Esky ID: E032497

Relinquished by:	Ken Douglas-Hill	Signed:	Date:	Relinquished by:		Signed:	Date:
Recieved by:		Signed: [signature]	Date: 14/6/07 6pm	Recieved by:		Signed:	Date:

ALS Environmental

CERTIFICATE OF ANALYSIS

Client	: HLA-ENVIROSCIENCES PTY LTD	*Laboratory*	: Environmental Division Sydney	*Page*	: 1 of 6
Contact	: MR ALEX LATHAM	*Contact*	: Victor Kedicioglu	*Work Order*	: **ES0708068**
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW AUSTRALIA 2072	*Address*	: 277-289 Woodpark Road Smithfield NSW Australia 2164		
E-mail	: alatham@hla-enviro.com.au	*E-mail*	: Victor.Kedicioglu@alsenviro.com		
Telephone	: 84848999	*Telephone*	: 61-2-8784 8555		
Facsimile	: 84848989	*Facsimile*	: 61-2-8784 8500		
Project	: S4074204 HORSLEY PARK	*Quote number*	: EN/004/07	*Date received*	: 15 Jun 2007
Order number	: 150663			*Date issued*	: 19 Jun 2007
C-O-C number	: - Not provided -			*No. of samples*	- *Received* : 2
Site	: - Not provided -				*Analysed* : 2

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	*Position*	*Department*
EDWANDY FADJAR	Senior Organic Chemist	Organics - NATA 825 (10911 - Sydney)
PHALAK INTHAKESONE	Organics Co-ordinator	Organics - NATA 825 (10911 - Sydney)
Sarah Millington	Senior Inorganic Chemist	Inorganics - NATA 825 (10911 - Sydney)

ALS Environmental

Comments

This report for the ALSE reference ES0708068 supersedes any previous reports with this reference. Results apply to the samples as submitted. All pages of this report have been checked and approved for release.

This report contains the following information:

- **Analytical Results for Samples Submitted**
- **Surrogate Recovery Data**

The analytical procedures used by ALS Environmental 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 herein. Reference methods from which ALSE methods are based are provided in parenthesis.

When moisture determination has been performed, results are reported on a dry weight basis. When a reported 'less than' result is higher than the LOR, this may be due to primary sample extracts/digestion dilution and/or insuffient sample amount for analysis. Surrogate Recovery Limits are static and based on USEPA SW846 or ALS-QWI/EN38 (in the absence of specified USEPA limits). Where LOR of reported result differ from standard LOR, this may be due to high moisture, reduced sample amount or matrix interference. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number, LOR = Limit of Reporting. * Indicates failed Surrogate Recoveries.

ALS Environmental

Analytical Results

Analyte	CAS number	LOR	Units	Client Sample ID: DUP03 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-001	Client Sample ID: DUP05 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-002
EA055: Moisture Content					
Moisture Content (dried @ 103°C)		1.0	%	21.0	24.4
EG005T: Total Metals by ICP-AES					
Arsenic	7440-38-2	5	mg/kg	14	8
Barium	7440-39-3	10	mg/kg	90	140
Cadmium	7440-43-9	1	mg/kg	<1	<1
Chromium	7440-47-3	2	mg/kg	24	17
Copper	7440-50-8	5	mg/kg	41	16
Lead	7439-92-1	5	mg/kg	18	23
Manganese	7439-96-5	5	mg/kg	1280	1520
Nickel	7440-02-0	2	mg/kg	8	9
Zinc	7440-66-6	5	mg/kg	45	30
EG035T: Total Mercury by FIMS					
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1
EP068A: Organochlorine Pesticides (OC)					
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----
EP068B: Organophosphorus Pesticides (OP)					
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----

ALS Environmental

Analytical Results

Analyte	CAS number	LOR	Units	Client Sample ID: DUP03 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-001	Client Sample ID: DUP05 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-002			
EP068B: Organophosphorus Pesticides (OP)								
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	----			
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	----			
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								
C10 - C14 Fraction		50	mg/kg	<50	----			

ALS Environmental

Analytical Results

Analyte	CAS number	LOR	Units	Client Sample ID: DUP03 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-001	Client Sample ID: DUP05 Sample Matrix Type / Description: SOIL Sample Date / Time: 13 Jun 2007 15:00 Laboratory Sample ID: ES0708068-002			
EP080/071: Total Petroleum Hydrocarbons								
C15 - C28 Fraction		100	mg/kg	<100	----			
C29 - C36 Fraction		100	mg/kg	<100	----			
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	90.2	----			
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	90.1	----			
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	88.6	----			
2-Chlorophenol-D4	93951-73-6	0.1	%	89.7	----			
2.4.6-Tribromophenol	118-79-6	0.1	%	54.4	----			
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.8	----			
Anthracene-d10	1719-06-8	0.1	%	89.1	----			
4-Terphenyl-d14	1718-51-0	0.1	%	102	----			

ALS Environmental

Surrogate Control Limits

Matrix Type: SOIL - Surrogate Control Limits

Method name	Analyte name	Surrogate Control Limits	
		Lower Limit	Upper Limit
EP068: Pesticides by GCMS			
EP068S: Organochlorine Pesticide Surrogate	Dibromo-DDE	10	136
EP068T: Organophosphorus Pesticide Surrogate	DEF	10	136
EP075(SIM): PAH/Phenols (SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	Phenol-d6	24	113
	2-Chlorophenol-D4	23	134
	2,4,6-Tribromophenol	19	122
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	30	115
	Anthracene-d10	27	133
	4-Terphenyl-d14	18	137

ALS Environmental

QUALITY CONTROL REPORT

Client	:	HLA-ENVIROSCIENCES PTY LTD	Laboratory	: Environmental Division Sydney	Page	:	1 of 12
Contact	:	MR ALEX LATHAM	Contact	: Victor Kedicioglu			
Address	:	LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164	Work order	:	ES0708068
					Amendment No.	:	
Project	:	S4074204 HORSLEY PARK	Quote number	: EN/004/07	Date received	:	15 Jun 2007
Order number	:	150663			Date issued	:	19 Jun 2007
C-O-C number	:	- Not provided -					
Site	:	- Not provided -					
E-mail	:	alatham@hla-enviro.com.au	E-mail	: Victor.Kedicioglu@alsenviro.com	No. of samples		
Telephone	:	84848999	Telephone	: 61-2-8784 8555	Received	:	2
Facsimile	:	84848989	Facsimile	: 61-2-8784 8500	Analysed	:	2

This final report for the ALSE work order reference ES0708068 supersedes any previous reports with this reference.
Results apply to the samples as submitted. All pages of this report have been checked and approved for release.
This report contains the following information:

- Laboratory Duplicates (DUP); Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Samples (LCS); Recovery and Acceptance Limits
- Matrix Spikes (MS); Recovery and Acceptance Limits

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Department
EDWANDY FADJAR	Organics - NATA 825 (10911 - Sydney)
PHALAK INTHAKESONE	Organics - NATA 825 (10911 - Sydney)
Sarah Millington	Inorganics - NATA 825 (10911 - Sydney)

ALS Environmental

Quality Control Report - Laboratory Duplicates (DUP)

The quality control term **Laboratory Duplicate** refers to an intralaboratory split sample randomly selected from the sample batch. Laboratory duplicates provide information on method precision and sample heterogeneity.
- Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. *Abbreviations: **LOR** = Limit of Reporting, **RPD** = Relative Percent Difference.*
* Indicates failed QC. The permitted ranges for the RPD of Laboratory Duplicates (relative percent deviation) 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%

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	*Client Sample ID*	*Analyte name*	*LOR*	*Original Result*	*Duplicate Result*	*RPD*
EA055: Moisture Content						
EA055: Moisture Content - (QC Lot: 432386)				%	%	%
ES0708068-001	DUP03	Moisture Content (dried @ 103°C)	1.0 %	21.0	21.9	4.5
ES0708099-008	Anonymous	Moisture Content (dried @ 103°C)	1.0 %	21.2	21.6	2.0
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 432377)				mg/kg	mg/kg	%
ES0708068-001	DUP03	Arsenic	5 mg/kg	14	13	0.0
		Barium	10 mg/kg	90	80	0.0
		Cadmium	1 mg/kg	<1	<1	0.0
		Chromium	2 mg/kg	24	24	0.0
		Copper	5 mg/kg	41	39	4.8
		Lead	5 mg/kg	18	18	0.0
		Manganese	5 mg/kg	1280	1220	4.8
		Nickel	2 mg/kg	8	8	0.0
		Zinc	5 mg/kg	45	44	0.0
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 432378)				mg/kg	mg/kg	%
ES0708068-001	DUP03	Mercury	0.1 mg/kg	0.2	<0.1	75.0
EP068A: Organochlorine Pesticides (OC)						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341)				mg/kg	mg/kg	%
ES0708068-001	DUP03	alpha-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		Hexachlorobenzene (HCB)	0.05 mg/kg	<0.05	<0.05	0.0
		beta-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		gamma-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		delta-BHC	0.05 mg/kg	<0.05	<0.05	0.0
		Heptachlor	0.05 mg/kg	<0.05	<0.05	0.0
		Aldrin	0.05 mg/kg	<0.05	<0.05	0.0

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	*Client Sample ID*	*Analyte name*	*LOR*	*Original Result*	*Duplicate Result*	*RPD*
EP068A: Organochlorine Pesticides (OC) - continued						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341) - continued				mg/kg	mg/kg	%
ES0708068-001	DUP03	Heptachlor epoxide	0.05 mg/kg	<0.05	<0.05	0.0
		trans-Chlordane	0.05 mg/kg	<0.05	<0.05	0.0
		alpha-Endosulfan	0.05 mg/kg	<0.05	<0.05	0.0
		cis-Chlordane	0.05 mg/kg	<0.05	<0.05	0.0
		Dieldrin	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDE	0.05 mg/kg	<0.05	<0.05	0.0
		Endrin	0.05 mg/kg	<0.05	<0.05	0.0
		beta-Endosulfan	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDD	0.05 mg/kg	<0.05	<0.05	0.0
		Endrin aldehyde	0.05 mg/kg	<0.05	<0.05	0.0
		Endosulfan sulfate	0.05 mg/kg	<0.05	<0.05	0.0
		4,4'-DDT	0.2 mg/kg	<0.2	<0.2	0.0
		Endrin ketone	0.05 mg/kg	<0.05	<0.05	0.0
		Methoxychlor	0.2 mg/kg	<0.2	<0.2	0.0
EP068B: Organophosphorus Pesticides (OP)						
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341)				mg/kg	mg/kg	%
ES0708068-001	DUP03	Dichlorvos	0.05 mg/kg	<0.05	<0.05	0.0
		Demeton-S-methyl	0.05 mg/kg	<0.05	<0.05	0.0
		Monocrotophos	0.2 mg/kg	<0.2	<0.2	0.0
		Dimethoate	0.05 mg/kg	<0.05	<0.05	0.0
		Diazinon	0.05 mg/kg	<0.05	<0.05	0.0
		Chlorpyrifos-methyl	0.05 mg/kg	<0.05	<0.05	0.0
		Parathion-methyl	0.2 mg/kg	<0.2	<0.2	0.0
		Malathion	0.05 mg/kg	<0.05	<0.05	0.0
		Fenthion	0.05 mg/kg	<0.05	<0.05	0.0
		Chlorpyrifos	0.05 mg/kg	<0.05	<0.05	0.0
		Parathion	0.2 mg/kg	<0.2	<0.2	0.0
		Pirimphos-ethyl	0.05 mg/kg	<0.05	<0.05	0.0
		Chlorfenvinphos	0.05 mg/kg	<0.05	<0.05	0.0

Matrix Type: SOIL

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
EP068B: Organophosphorus Pesticides (OP) - continued						
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341) - continued				mg/kg	mg/kg	%
ES0708068-001	DUP03	Bromophos-ethyl	0.05 mg/kg	<0.05	<0.05	0.0
		Fenamiphos	0.05 mg/kg	<0.05	<0.05	0.0
		Prothiofos	0.05 mg/kg	<0.05	<0.05	0.0
		Ethion	0.05 mg/kg	<0.05	<0.05	0.0
		Carbophenothion	0.05 mg/kg	<0.05	<0.05	0.0
		Methyl Azinphos	0.05 mg/kg	<0.05	<0.05	0.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 432345)				mg/kg	mg/kg	%
ES0708099-001	Anonymous	Naphthalene	0.5 mg/kg	<0.5	<0.5	0.0
		Acenaphthylene	0.5 mg/kg	<0.5	<0.5	0.0
		Acenaphthene	0.5 mg/kg	<0.5	<0.5	0.0
		Fluorene	0.5 mg/kg	<0.5	<0.5	0.0
		Phenanthrene	0.5 mg/kg	0.9	0.7	16.4
		Anthracene	0.5 mg/kg	<0.5	<0.5	0.0
		Fluoranthene	0.5 mg/kg	1.9	1.7	9.6
		Pyrene	0.5 mg/kg	1.6	1.5	0.0
		Benz(a)anthracene	0.5 mg/kg	0.7	0.5	27.7
		Chrysene	0.5 mg/kg	0.9	0.7	17.2
		Benzo(b)fluoranthene	0.5 mg/kg	0.9	0.7	20.8
		Benzo(k)fluoranthene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(a)pyrene	0.5 mg/kg	0.8	0.7	23.7
		Indeno(1,2,3,cd)pyrene	0.5 mg/kg	0.5	<0.5	0.0
		Dibenz(a,h)anthracene	0.5 mg/kg	<0.5	<0.5	0.0
		Benzo(g,h,i)perylene	0.5 mg/kg	0.7	0.6	17.6
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 432344)				mg/kg	mg/kg	%
ES0708099-001	Anonymous	C10 - C14 Fraction	50 mg/kg	<50	<50	0.0
		C15 - C28 Fraction	100 mg/kg	<100	<100	0.0
		C29 - C36 Fraction	100 mg/kg	<100	<100	0.0

ALS Environmental

Quality Control Report - Method Blank (MB) and Laboratory Control Samples (LCS)

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 type is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a known, interference free matrix spiked with target analytes or certified reference material. The purpose of this QC type is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of actual laboratory data. Flagged outliers on control limits for inorganics tests may be within the NEPM specified data quality objective of recoveries in the range of 70 to 130%. Where this occurs, no corrective action is taken. Abbreviations: LOR = Limit of reporting.

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EG005T: Total Metals by ICP-AES						
EG005T: Total Metals by ICP-AES - (QC Lot: 432377)		mg/kg	mg/kg	%	%	%
Arsenic	5 mg/kg	<5	---	---	---	---
	5 mg/kg	---	13.1	118	86.6	123
Barium	10 mg/kg	<10	---	---	---	---
Cadmium	1 mg/kg	<1	---	---	---	---
	1 mg/kg	---	2.76	109	79.9	120
Chromium	2 mg/kg	---	60.9	111	87.1	119
	2 mg/kg	<2	---	---	---	---
Copper	5 mg/kg	<5	---	---	---	---
	5 mg/kg	---	54.7	110	85.2	117
Lead	5 mg/kg	---	55.2	105	82.1	117
	5 mg/kg	<5	---	---	---	---
Manganese	5 mg/kg	<5	---	---	---	---
Nickel	2 mg/kg	---	54.8	114	88	122
	2 mg/kg	<2	---	---	---	---
Zinc	5 mg/kg	---	104	109	79	116
	5 mg/kg	<5	---	---	---	---
EG035T: Total Mercury by FIMS						
EG035T: Total Mercury by FIMS - (QC Lot: 432378)		mg/kg	mg/kg	%	%	%
Mercury	0.1 mg/kg	---	1.4	100	73.7	108
	0.1 mg/kg	<0.1	---	---	---	---
EP068A: Organochlorine Pesticides (OC)						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341)		mg/kg	mg/kg	%	%	%
4,4'-DDD	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	111	65.3	116

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP068A: Organochlorine Pesticides (OC) - continued						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341) - continued		mg/kg	mg/kg	%	%	%
4,4'-DDE	0.05 mg/kg	----	0.25	100	67.5	114
	0.05 mg/kg	<0.05	----	----	----	----
4,4'-DDT	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	0.25	103	58.4	127
Aldrin	0.05 mg/kg	----	0.25	93.9	67	113
	0.05 mg/kg	<0.05	----	----	----	----
alpha-BHC	0.05 mg/kg	----	0.25	111	60.8	116
	0.05 mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	97.1	65.8	116
beta-BHC	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	115	59.8	117
beta-Endosulfan	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	102	66.1	117
cis-Chlordane	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	94.3	57.3	120
delta-BHC	0.05 mg/kg	----	0.25	101	65.8	114
	0.05 mg/kg	<0.05	----	----	----	----
Dieldrin	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	100	67.4	116
Endosulfan sulfate	0.05 mg/kg	----	0.25	106	63.6	119
	0.05 mg/kg	<0.05	----	----	----	----
Endrin	0.05 mg/kg	----	0.25	103	63	121
	0.05 mg/kg	<0.05	----	----	----	----
Endrin aldehyde	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	101	57.3	115
Endrin ketone	0.05 mg/kg	----	0.25	98.4	63.6	117
	0.05 mg/kg	<0.05	----	----	----	----
gamma-BHC	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	119	59.8	118

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP068A: Organochlorine Pesticides (OC) - continued						
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341) - continued		mg/kg	mg/kg	%	%	%
Heptachlor	0.05 mg/kg	---	0.25	100	65.6	115
	0.05 mg/kg	<0.05	---	---	---	---
Heptachlor epoxide	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	97.7	65.6	113
Hexachlorobenzene (HCB)	0.05 mg/kg	---	0.25	112	59.4	115
	0.05 mg/kg	<0.05	---	---	---	---
Methoxychlor	0.2 mg/kg	---	0.25	91.9	50.4	132
	0.2 mg/kg	<0.2	---	---	---	---
trans-Chlordane	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	91.3	60.7	113
EP068B: Organophosphorus Pesticides (OP)						
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341)		mg/kg	mg/kg	%	%	%
Methyl Azinphos	0.05 mg/kg	---	0.25	38.7	29.8	137
	0.05 mg/kg	<0.05	---	---	---	---
Bromophos-ethyl	0.05 mg/kg	---	0.25	100	64.3	114
	0.05 mg/kg	<0.05	---	---	---	---
Carbophenothion	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	96.3	59.5	119
Chlorfenvinphos	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	104	61.4	123
Chlorpyrifos	0.05 mg/kg	---	0.25	98.8	64.2	111
	0.05 mg/kg	<0.05	---	---	---	---
Chlorpyrifos-methyl	0.05 mg/kg	---	0.25	101	65.1	111
	0.05 mg/kg	<0.05	---	---	---	---
Demeton-S-methyl	0.05 mg/kg	---	0.25	124	10.1	159
	0.05 mg/kg	<0.05	---	---	---	---
Diazinon	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	100	64.9	111
Dichlorvos	0.05 mg/kg	<0.05	---	---	---	---
	0.05 mg/kg	---	0.25	91.4	25.5	124

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP068B: Organophosphorus Pesticides (OP) - continued						
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341) - continued		mg/kg	mg/kg	%	%	%
Dimethoate	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	120	48.6	126
Ethion	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	103	62	116
Fenamiphos	0.05 mg/kg	----	0.25	100	45.5	128
	0.05 mg/kg	<0.05	----	----	----	----
Fenthion	0.05 mg/kg	----	0.25	100	64.7	110
	0.05 mg/kg	<0.05	----	----	----	----
Malathion	0.05 mg/kg	----	0.25	102	60.4	127
	0.05 mg/kg	<0.05	----	----	----	----
Monocrotophos	0.2 mg/kg	----	0.25	110	2.88	149
	0.2 mg/kg	<0.2	----	----	----	----
Parathion	0.2 mg/kg	----	0.25	95.7	60	116
	0.2 mg/kg	<0.2	----	----	----	----
Parathion-methyl	0.2 mg/kg	<0.2	----	----	----	----
	0.2 mg/kg	----	0.25	98.2	61.4	113
Pirimphos-ethyl	0.05 mg/kg	<0.05	----	----	----	----
	0.05 mg/kg	----	0.25	100	64.8	111
Prothiofos	0.05 mg/kg	----	0.25	103	65.4	111
	0.05 mg/kg	<0.05	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 432345)		mg/kg	mg/kg	%	%	%
Acenaphthene	0.5 mg/kg	----	4	92.8	81.5	112
	0.5 mg/kg	<0.5	----	----	----	----
Acenaphthylene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	85.8	79.6	113
Anthracene	0.5 mg/kg	----	4	93.6	81.1	112
	0.5 mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	0.5 mg/kg	<0.5	----	----	----	----
	0.5 mg/kg	----	4	88.4	77.2	112

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 432345) - continued		mg/kg	mg/kg	%	%	%
Benzo(a)pyrene	0.5 mg/kg	---	4	87.7	76.4	113
	0.5 mg/kg	<0.5	---	---	---	---
Benzo(b)fluoranthene	0.5 mg/kg	<0.5	---	---	---	---
	0.5 mg/kg	---	4	79.6	71.8	118
Benzo(g,h,i)perylene	0.5 mg/kg	---	4	91.7	72.4	114
	0.5 mg/kg	<0.5	---	---	---	---
Benzo(k)fluoranthene	0.5 mg/kg	<0.5	---	---	---	---
	0.5 mg/kg	---	4	109	74.2	117
Chrysene	0.5 mg/kg	---	4	99.9	79.8	114
	0.5 mg/kg	<0.5	---	---	---	---
Dibenz(a,h)anthracene	0.5 mg/kg	<0.5	---	---	---	---
	0.5 mg/kg	---	4	88.3	71.7	113
Fluoranthene	0.5 mg/kg	<0.5	---	---	---	---
	0.5 mg/kg	---	4	88.2	78.8	113
Fluorene	0.5 mg/kg	<0.5	---	---	---	---
	0.5 mg/kg	---	4	95.6	79.9	112
Indeno(1,2,3,cd)pyrene	0.5 mg/kg	---	4	89.6	71	113
	0.5 mg/kg	<0.5	---	---	---	---
Naphthalene	0.5 mg/kg	---	4	97.0	81.9	113
	0.5 mg/kg	<0.5	---	---	---	---
Phenanthrene	0.5 mg/kg	---	4	98.5	79.4	114
	0.5 mg/kg	<0.5	---	---	---	---
Pyrene	0.5 mg/kg	---	4	87.1	78.9	113
	0.5 mg/kg	<0.5	---	---	---	---
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 432344)		mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	50 mg/kg	---	200	87.0	75.2	116
	50 mg/kg	<50	---	---	---	---
C15 - C28 Fraction	100 mg/kg	---	200	84.0	75.3	113
	100 mg/kg	<100	---	---	---	---

Matrix Type: SOIL

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP080/071: Total Petroleum Hydrocarbons - continued						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 432344) - continued		mg/kg	mg/kg	%	%	%
C29 - C36 Fraction	100 mg/kg	<100	----	----	----	----
	100 mg/kg	---	200	104	72.6	117

ALS Environmental

Quality Control Report - Matrix Spikes (MS)

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 type is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQO's). 'Ideal' recovery ranges stated may be waived in the event of sample matrix interferences. - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. *Abbreviations:* ***LOR*** *= Limit of Reporting,* ***RPD*** *= Relative Percent Difference.*

* Indicates failed QC

Matrix Type: SOIL

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EG005T: Total Metals by ICP-AES								
EG005T: Total Metals by ICP-AES - (QC Lot: 432377)				mg/kg	mg/kg	%	%	%
Arsenic	ES0708068-001	DUP03	5 mg/kg	50	14	95.9	70	130
Cadmium			1 mg/kg	50	<1	98.1	70	130
Chromium			2 mg/kg	50	24	96.6	70	130
Copper			5 mg/kg	250	41	102	70	130
Lead			5 mg/kg	250	18	97.2	70	130
Nickel			2 mg/kg	50	8	101	70	130
Zinc			5 mg/kg	250	45	102	70	130
EG035T: Total Mercury by FIMS								
EG035T: Total Mercury by FIMS - (QC Lot: 432378)				mg/kg	mg/kg	%	%	%
Mercury	ES0708068-001	DUP03	0.1 mg/kg	5	0.2	101	70	130
EP068A: Organochlorine Pesticides (OC)								
EP068A: Organochlorine Pesticides (OC) - (QC Lot: 432341)				mg/kg	mg/kg	%	%	%
gamma-BHC	ES0708068-001	DUP03	0.05 mg/kg	0.25	<0.05	91.7	75.65	110.44
Heptachlor			0.05 mg/kg	0.25	<0.05	75.0	72.2	106.71
Aldrin			0.05 mg/kg	0.25	<0.05	76.9	77.54	107.0
Dieldrin			0.05 mg/kg	0.25	<0.05	83.6	76.37	109.7
Endrin			0.05 mg/kg	1	<0.05	89.2	68.51	119.47
4,4'-DDT			0.20 mg/kg	1	<0.2	62.8	67.12	118.10
EP068B: Organophosphorus Pesticides (OP)								
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341)				mg/kg	mg/kg	%	%	%
Diazinon	ES0708068-001	DUP03	0.05 mg/kg	0.25	<0.05	80.6	75.85	107.06
Chlorpyrifos-methyl			0.05 mg/kg	0.25	<0.05	85.3	74.84	107.91
Pirimphos-ethyl			0.05 mg/kg	0.25	<0.05	88.8	67.98	109.42
Bromophos-ethyl			0.05 mg/kg	0.25	<0.05	74.5	74.94	107.37

Matrix Type: SOIL

Matrix Spike (MS) Report

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EP068B: Organophosphorus Pesticides (OP) - continued								
EP068B: Organophosphorus Pesticides (OP) - (QC Lot: 432341) - continued				mg/kg	mg/kg	%	%	%
Prothiofos	ES0708068-001	DUP03	0.05 mg/kg	0.25	<0.05	114	75.45	106.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - (QC Lot: 432345)				mg/kg	mg/kg	%	%	%
Acenaphthene	ES0708099-001	Anonymous	0.5 mg/kg	10	<0.5	86.3	70	130
Pyrene			0.5 mg/kg	10	1.6	80.4	70	130
EP080/071: Total Petroleum Hydrocarbons								
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 432344)				mg/kg	mg/kg	%	%	%
C10 - C14 Fraction	ES0708099-001	Anonymous	50 mg/kg	490	<50	96.4	70	130
C15 - C28 Fraction			100 mg/kg	3380	<100	81.7	70	130
C29 - C36 Fraction			100 mg/kg	2260	<100	92.0	70	130

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Client	:	HLA-ENVIROSCIENCES PTY LTD	**Laboratory**	:	Environmental Division Sydney	**Page**	: 1 of 5
Contact	:	MR ALEX LATHAM	**Contact**	:	Victor Kedicioglu		
Address	:	LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW AUSTRALIA 2072	**Address**	:	277-289 Woodpark Road Smithfield NSW Australia 2164	**Work order**	: **ES0708068**
						Amendment No.	:
Project	:	S4074204 HORSLEY PARK	**Quote number**	:	EN/004/07	**Date received**	: 15 Jun 2007
Order number	:	150663				**Date issued**	: 19 Jun 2007
C-O-C number	:	- Not provided -					
Site	:	- Not provided -					
E-mail	:	alatham@hla-enviro.com.au	**E-mail**	:	Victor.Kedicioglu@alsenviro.com	**No. of samples**	
Telephone	:	84848999	**Telephone**	:	61-2-8784 8555	**Received**	: 2
Facsimile	:	84848989	**Facsimile**	:	61-2-8784 8500	**Analysed**	: 2

This Interpretive Quality Control Report was issued on 19 Jun 2007 for the ALS work order reference ES0708068 and supersedes any previous reports with this reference.
This report contains the following information:

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

Interpretive Quality Control Report - Analysis Holding Time

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 preclude subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the sample aliquot was taken. Elapsed time to analysis represents time from sampling where no extraction / digestion is involved or time from extraction / digestion where this is present. For composite samples, sampling date/time is taken as that of the oldest sample contributing to that composite. Sample date/time for laboratory produced leaches are taken from the completion date/time of the leaching process. Outliers for holding time are based on USEPA SW846, APHA, AS and NEPM (1999). Failed outliers, refer to the 'Summary of Outliers'.

Matrix Type: SOIL

Analysis Holding Time and Preservation

Method / Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EA055-103: Moisture Content							
Soil Glass Jar - Unpreserved							
DUP03, DUP05	13 Jun 2007	---	---	---	18 Jun 2007	20 Jun 2007	Pass
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
DUP03, DUP05	13 Jun 2007	18 Jun 2007	10 Dec 2007	Pass	19 Jun 2007	10 Dec 2007	Pass
EG035T: Total Mercury by FIMS							
Soil Glass Jar - Unpreserved							
DUP03, DUP05	13 Jun 2007	18 Jun 2007	11 Jul 2007	Pass	19 Jun 2007	11 Jul 2007	Pass
EP068: Pesticides by GCMS							
Soil Glass Jar - Unpreserved							
DUP03	13 Jun 2007	18 Jun 2007	27 Jun 2007	Pass	19 Jun 2007	28 Jul 2007	Pass
EP071: TPH - Semivolatile Fraction							
Soil Glass Jar - Unpreserved							
DUP03	13 Jun 2007	18 Jun 2007	27 Jun 2007	Pass	19 Jun 2007	28 Jul 2007	Pass
EP075(SIM): PAH/Phenols (SIM)							
Soil Glass Jar - Unpreserved							
DUP03	13 Jun 2007	18 Jun 2007	27 Jun 2007	Pass	18 Jun 2007	28 Jul 2007	Pass

ALS Environmental

Interpretive Quality Control Report - Frequency of Quality Control Samples

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which this work order was processed. Actual rate should be greater than or equal to the expected rate.

Matrix Type: SOIL

Frequency of Quality Control Samples

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
EA055-103: Moisture Content	2	10	20.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES	1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	1	100.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	10	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005T: Total Metals by ICP-AES	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	1	100.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005T: Total Metals by ICP-AES	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	1	100.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005T: Total Metals by ICP-AES	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	1	100.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

ALS Environmental

Interpretive Quality Control Report - Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged on the 'Quality Control Report'. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). Flagged outliers on control limits for inorganics tests may be within the NEPM specified data quality objective of recoveries in the range of 70 to 130%. Where this occurs, no corrective action is taken. - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot.

Non-surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Laboratory Control Samples (LCS)							
EP068A: Organochlorine Pesticides (OC)	SOIL	475563-002	---	gamma-BHC	119 %	59.8-118 %	Recovery greater than upper control limit
Matrix Spikes (MS)							
EP068A: Organochlorine Pesticides (OC)	SOIL	ES0708068-001	DUP03	Aldrin	76.9 %	77.54-107.0 %	Recovery less than lower data quality objective
				4,4'-DDT	62.8 %	67.12-118.10 %	Recovery less than lower data quality objective
EP068B: Organophosphorus Pesticides (OP)	SOIL	ES0708068-001	DUP03	Bromophos-ethyl	74.5 %	74.94-107.37 %	Recovery less than lower data quality objective
				Prothiofos	114 %	75.45-106.05 %	Recovery greater than upper data quality objective

- **For all matrices, no RPD recovery outliers occur for the duplicate analysis.**
- **For all matrices, no method blank result outliers occur.**

Surrogates

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

Outliers : Analysis Holding Time

The following report highlights outliers within this 'Interpretive Quality Control Report - Analysis Holding Time'.

- **No holding time outliers occur.**

Outliers : Frequency of Quality Control Samples

The following report highlights outliers within this 'Interpretive Quality Control Report - Frequency of Quality Control Samples'.

- **No frequency outliers occur.**

Method Reference Summary

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure 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 herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: SOIL

Method Reference Summary

Preparation Methods

EN69 : Hot Block Digest for metals in soils sediments and sludges - 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)

ORG17A : Tumbler Extraction of Solids (Option A - Concentrating) - 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.

ORG17B : Tumbler Extraction of Solids (Option B - Non-concentrating) - 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.

Analytical Methods

EA055-103 : Moisture Content - 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)

EG005T : Total Metals by ICP-AES - (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)

EG035T : Total Mercury by FIMS - 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)

EP068 : Pesticides by GCMS - (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)

EP071 : TPH - Semivolatile Fraction - (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)

EP075(SIM) : PAH/Phenols (SIM) - (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)

AUSTRALIAN LABORATORY SERVICES PTY LTD ABN 84 009 936 029
277-289 Woodpark Road Smithfield NSW 2164 Australia
Telephone: 61-2-8784 8555 Facsimile: 61-2-8784 8500 http://www.alsenviro.com/

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive report

Client Details

Client	:	HLA-ENVIROSCIENCES PTY LTD
Contact	:	MR ALEX LATHAM
Address	:	LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW AUSTRALIA 2072
Project	:	S4074204 HORSLEY PARK
Order number	:	150663
C-O-C Number	:	- Not provided -
Site	:	- Not provided -
Sampler	:	KEN DOUGLAS-HILL
E-mail	:	alatham@hla-enviro.com.au
Telephone	:	84848999
Facsimile	:	84848989

Laboratory Details

Laboratory	:	Environmental Division Sydney
Manager	:	Victor Kedicioglu
Address	:	277-289 Woodpark Road Smithfield NSW Australia 2164
Quote number	:	ES20070039
Work order	:	ES0708068
E-mail	:	Victor.Kedicioglu@alsenviro.com
Telephone	:	61-2-8784 8555
Facsimile	:	61-2-8784 8500

Dates

Date Samples Received	:	15 Jun 2007	SRA Issue Date	:	18 Jun 2007
Scheduled Reporting Date	:	19 Jun 2007	Client Requested Date	:	19 Jun 2007

Delivery Details

Mode of Delivery	:	Carrier.	Temperature	:	AMBIENT
No. of coolers/boxes	:	1 FOAM	No. of samples - Received		2
Security Seal	:	Intact.	- Analysed		2

Comments

- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**

- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALSE Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.
- When the sampling time is not supplied on the COC documentation, ALSE defaults the sampling time to that of the COC 'relinquishment' time (if supplied). If this also is not supplied, ALSE defaults the sampling time to the 'time of receipt at Laboratory'.

Client	: HLA-ENVIROSCIENCES PTY LTD	**Work Order**	: ES0708068
Project	: S4074204 HORSLEY PARK	**ALS Quote Reference**	: ES20070039

ALS Environmental

Summary of Sample(s) / Container(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 moisture and preparation tasks, that form an implicit part of that package.

ALS Sample ID.	Client Sample ID - Sample Date	**Requested Analysis**									
		EA055-103 - SOIL Moisture Content	**EG005T (solids) - SOIL** Total Metals by ICP-AES	**EG035T (solids) - SOIL** Total Mercury by FIMS	**EP071-(SV) - SOIL** TPH(SV) Standard Limits of Reporting	**EP075 SIM PAH only - SOIL** SIM - PAH only	**S-02 - SOIL** 8 Metals (incl. Digestion)	**S-12 - SOIL** OC/OP Pesticides			
ES0708068-001	**DUP03 - 13 Jun 2007**	1	1	1	1	1		1			
ES0708068-002	**DUP05 - 13 Jun 2007**	1	1				1				
	Total(s) :	**2**	**2**	**1**	**1**	**1**	**1**	**1**			

Client	: HLA-ENVIROSCIENCES PTY LTD	**Work Order**	: ES0708068
Project	: S4074204 HORSLEY PARK	**ALS Quote Reference**	: ES20070039

ALS Environmental

Requested Reports

- **MR ALEX LATHAM**
  - A4 - AU Interpretive Quality Control Report - NEPM format — Email — alatham@hla-enviro.com.au
  - A4 - AU Certificate of Analysis - NEPM format — Email — alatham@hla-enviro.com.au
  - A4 - AU Quality Control Report - NEPM format — Email — alatham@hla-enviro.com.au
  - EDI Format - ESDAT — Email — alatham@hla-enviro.com.au
  - EDI Format - ENMRG — Email — alatham@hla-enviro.com.au
  - A4 - AU Sample Receipt Notification - Comprehensive format — Email — alatham@hla-enviro.com.au
  - Default - Chain of Custody — Email — alatham@hla-enviro.com.au
  - A4 - AU Tax Invoice — Email — alatham@hla-enviro.com.au
- **THE RESULTS ADDRESS**
  - A4 - AU Certificate of Analysis - NEPM format — Email — syd.als@hla-enviro.com.au
  - A4 - AU Quality Control Report - NEPM format — Email — syd.als@hla-enviro.com.au
  - A4 - AU Interpretive Quality Control Report - NEPM format — Email — syd.als@hla-enviro.com.au
  - EDI Format - ENMRG — Email — syd.als@hla-enviro.com.au
  - EDI Format - ESDAT — Email — syd.als@hla-enviro.com.au
  - Default - Chain of Custody — Email — syd.als@hla-enviro.com.au
  - A4 - AU Sample Receipt Notification - Comprehensive format — Email — syd.als@hla-enviro.com.au

Sample Container(s) / Preservation Non-Compliance Log

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

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

Report version : SRAEA 2.04
A Campbell Brothers Limited Company

HLA

CHAIN OF CUSTODY

HLA - Enviroscience Pty Limited - Sydney		**Laboratory Details**	Tel: 8784 8555
Level 5, 828 Pacific Hwy	Tel: 61 2 8484 8999	Lab Name: ALS	Fax: 8784 8500
PO Box 726 Pymble NSW 2073	Fax: 61 2 8484 8989	Lab Address: Smithfield	Preliminary Report by:
Gordon NSW 2072 Australia	E-mail: mail@syd.hla-enviro.com.au	Contact Name: Victor	Final Report by:
		Lab. Ref:	Lab Quote No:

Sampled By: Ken Douglas-Hill | HLA Project No: S4074204 | Project Name: Horsely Park | PO No. 150683

Specifications: ESDAT Format RESULTS TO A. Latham

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr ____days) by TUES 19 June.	✓
2. Fast TAT Guarantee Required?	✓
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.17	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: alatham@hla-enviro.com.au	

	Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: Filtered	acid	ice	other	Container (No. & type)	Analysis Request: TPH C10-C36	Metals*	PAH's	OCP	OPP	Phenoxy acid herb's	SVOC	VOC	TPH	Lead	TCLP Heavy Metals	TCLP PAH's	Phenols	VHC	Speciated TPH	Other	HOLD
(1)		DUP 03	13/6/07	✓					✓		1 jar	✓	✓	✓	✓	✓												
(2)		DUP 05	13/6/07	✓					✓		1 jar		✓																

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg Mn Ba

Comments: RESULTS REQUIRED BY COB 19/6/07.

Relinquished by:	Ken Douglas-Hill	Signed:	Date: 19/6/07	Relinquished by:		Signed:	Date:
Recieved by:	Noreen ALS SYD	Signed:	Date: 15/6/07 16:00	Recieved by:		Signed:	Date:

TURN-AROUND TIME DISCUSSED WITH VICTOR.

Temp: -8.3c

Environmental Division
Sydney
Work Order
ES0708068

Telephone : 61-2-8784 8555