Legacy Property

Environmental Site Assessment Report

Stage 2 Development
Caddens, NSW

27 October 2016

52116-105322

JBS&G

www.jbsg.com.au

Legacy Property
Environmental Site Assessment Report

Stage 2 Development
Caddens, NSW

27 October 2016

52116-105322
JBS&G

Table of Contents

List of Tables

List of Figures

Appendices

Abbreviations

A list of common abbreviations used throughout this report is provided below.

As	Arsenic
AST	Aboveground Storage Tank
Cd	Cadmium
Cr	Chromium
Cu	Copper
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
B(a)P	Benzo (a) pyrene
EPA	NSW Environment Protection Authority
DO	Dissolved oxygen
DPE	NSW Department of Planning and Environment
DQO	Data Quality Objectives
DP	Deposited Plan
EC	Electrical conductivity
EH	Redox potential
EPA	New South Wales Environment Protection Authority
Hg	Mercury
HIL	Health Based Investigation Level
LOR	Limit of Reporting
MAH	Monocyclic Aromatic Hydrocarbon
Ni	Nickel
OCP	Organochlorine Pesticide
SAR	Site Audit Report
SAS	Site Audit Statement
PAH	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PIL	(Provisional) Phytotoxicity Based Investigation Level
PCB	Polychlorinated Biphenyls
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percentage Difference
TPH	Total Petroleum Hydrocarbons (C_6-C_9 and C_{10}-C_{36})
UST	Underground Storage Tank
Zn	Zinc

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Legacy Property (Legacy, the client) to complete an Environmental Site Assessment (ESA) for properties located between Caddens Road and O'Connell Street, Caddens, NSW (the site). Currently the site (see **Figure 1**) is largely vacant and was previously used for rural residential purposes. The site is made up of a number of lots (see **Figure 2**) and these lots have been the subject of a series of environmental site assessments undertaken by the various land owners.

Legacy has consolidated the site under one ownership and it is understood is seeking a consolidated ESA to support an application to Penrith City Council for development of the land consistent with the current R1 – General Residential (Penrith LEP 2010) zoning.

The scope of the assessment included a site inspection, desktop review of available environmental site assessment reports, site history and background information to identify potential areas of environmental concern and associated contaminants of potential concern, the development and documentation of a conceptual site model based on the available information. In order to address a data gap identified in the review, intrusive sampling was undertaken on Lots 1, 2 and 6.

Based on the review of available information and investigations no contamination was identified which would preclude the residential development of the site. However, based on the scope of work completed for this assessment and subject to the limitations in **Section 8**, it is recommended that work, health, safety and environmental management controls (including protocols to manage unexpected finds) should be implemented during the development earthworks phase.

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Legacy Property (Legacy, the client) to complete an Environmental Site Assessment (ESA) for properties located between Caddens Road and O'Connell Street, Caddens, NSW (the site). Currently the site (see **Figure 1**) is largely vacant and was previously used for rural residential purposes. The site is made up of a number of lots (see **Figure 2** and **Section 2**) and these lots have been the subject of a series of environmental site assessments undertaken by the various land owners. Legacy has brought the site under one ownership and has commissioned the consolidated ESA to support an application to Penrith City Council for development of the land consistent with the current R1 – General Residential (Penrith LEP 2010) zoning[1].

This assessment has been conducted in accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards.

1.2 Objectives

The objective of the assessment is to assess the potential for contamination based on historical and current site activities and the environmental assessments undertaken to date. For the purpose of supporting a Development Application for the site, the ESA draws preliminary conclusions regarding the potential soil and groundwater issues which may affect the site's use for residential purposes.

1.3 Scope of Work

The following scope of works was undertaken:

- A site inspection and desktop review of available environmental site assessments, site history and background information to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPC);
- Development and documentation of a conceptual site model (CSM) based on the available information;
- Identification of potential data gaps based on the CSM;
- Undertaking intrusive investigations to address data gaps;
- Preparation of an ESA report in general accordance with relevant EPA Guidelines; and
- Assessment of whether the site is suitable, from a site contamination perspective, for the proposed land use.

[1] Penrith City Council (2010), *Local Environmental Plan (LEP) 2010*, accessed on 7 July 2016, http://legislation.nsw.gov.au/#/view/EPI/2010/540

2. Site Condition and Surrounding Environment

2.1 Site Identification and Previous Assessments

The site details are summarised in **Table 2.1**, and shown on **Figures 1** and **2**.

Table 2.1: Site Identifications

Identification		Description
Lot 11 DP522660		
Address	117 O'Connell Street, Caddens, NSW	Previously drive-in garden centre. Site buildings now demolished to ground level with some demolition stockpiles remaining. Asphalt, concrete, paving and gravel is also present. An irrigation dam is located in the southwest corner of the property.
Site Area	Approximately 2.6 hectares (ha)	
Current Land Use	Vacant land	
Former Land Use	Agriculture and later garden centre	
Lot 12 DP 522660		
Address	141 O'Connell Street, Caddens, NSW	Open sparsely vegetated paddock used for cattle grazing. Some hard rubbish (e.g. drums and baths) previously identified.
Site Area	Approximately 2.83 ha	
Current Land Use	Vacant land	
Former Land Use	Agriculture	
Lot 51 DP 1189505		
Address	143 O'Connell Street, Caddens, NSW	Agricultural land uses, including a dam which appears to be filled.
Site Area	Approximately 8 ha	
Current Land Use	Vacant land	
Former Land Use	Agriculture	
Lot 101 DP 564332		
Address	185 Caddens Road, Caddens, NSW	Open paddock with small pond/farm dam and fill in the north west corner and various.
Site Area	Approximately 3.41 ha	
Current Land Use	Vacant land, with limited sheep grazing.	
Former Land Use	Agriculture	
Lot 1 DP 515678		
Address	187 Caddens Road, Caddens, NSW	Rural residential, including remains of derelict brick building.
Site Area	Approximately 2.1 ha	
Current Land Use	Vacant land	
Former Land Use	Agriculture	
Lot 6 DP 502333		
Address	189 Caddens Road, Caddens, NSW	Road easement for access to rural residential property.
Site Area	Approximately 0.07 ha	
Current Land Use	Road access	
Former Land Use	Agriculture / orchards	
Lot 2 DP 502333		
Address	189 Caddens Road, Caddens, NSW	Rural residential with possible agricultural cultivation.
Site Area	Approximately 1.75 ha	
Current Land Use	Rural residential	
Former Land Use	Agriculture	
Lot 755 DP 1180111		
Address	207-213 Caddens Road, Caddens, NSW	Formerly comprised predominantly open farm land and orchard with occasional clusters of trees.
Site Area	Approximately 5.3 ha	
Current Land Use	Vacant land	
Former Land Use	Agriculture	

2.2 Surrounding Land-Use

The surrounding land uses have been identified as follows:

- North – Immediately bordered by O'Connell Street, and thence rural residential land which is part of the University Western Sydney campus;
- East – Western Sydney Records Centre in the north and rural residential land in the south;
- South – Immediately bordered by Caddens Road and thence rural residential land in the east and rural residential land in the west; and
- West – Immediately bordered by existing and developing residential areas in the south, and rural residential in the north.

2.3 Geology

Reference to the 1:100 000 Geology of the Penrith Sheet 9030 (1991) indicates the site is underlain by Bringelly Shale of mid Triassic age, the uppermost unit of the Wianamatta Group. The Bringelly Shale is composed of interbedded shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone and some coal and tuff. The site is located geologically towards the central part of the Penrith Basin where the Bringelly Shale is up to 90 metres thick and underlain by the Hawkesbury Sandstone[2].

The Soil Landscape Map of Penrith (Soil Landscape Series Sheet 9030, Scale 1:100,000, 1989), prepared by the Soil Conservation Service of NSW, indicates that the site is located within the Luddenham landscape area, with undulating to rolling low hills on Wianamatta Group shale, often associated with Minchinbury Sandstone and typically consists of localised impermeable, moderately reactive, highly plastic subsoil[3].

2.4 Topography

The site slopes from a high in the northwest and central area of the site towards the west, south and northeast. Site elevations are between 44 m Australian Height Datum (AHD) and 70 m AHD.

2.5 Hydrology

The site is predominantly surfaced with grass cover, whereby it is anticipated that surface water generated during periods of rainfall is likely to result in infiltration of the ground surface at a rate reflective of the clayey topsoil permeability. In periods of heavy or prolonged rainfall, excess water is expected to result in limited runoff collected by natural drainage channels that extend to the west towards Werrington Creek 80 m west of the site, and northeast and southeast of site that finally drain into Claremont Creek located approximately 750 m to the east of the site.

The two creeks drain into the Hawkesbury River, approximately 21 km north of the site.

2.6 Hydrogeology

Groundwater within the Bringelly Shale is located within a deep regional confined aquifer. Minor perched groundwater is also present within the weathered shale profile however these lenses are discontinuous and do not form an aquifer.

Registered groundwater bore information was obtained from the NSW Office of Water database on 20 September 2016[4] (Error! Reference source not found.). A review of the registered bore information indicated that there were no bores located within a 500 m radius of the site.

---

[2] Parsons Brinkerhoff (PB) (2009), Phase 2 Environmental Site Assessment Caddens Release, Kingswood, NSW, 2747, July 2009, Ref No. PR_9627 Rev B

[3] Preliminary Contamination Assessment, Geotechnique Pty Ltd 28 June 2011 (12486/1-AA)

[4] NSW Government Office of Water (OW) (2016), accessed 20 September 2016, http://allwaterdata.water.nsw.gov.au/water.stm

Groundwater monitoring wells have been previously installed on Lot 12 (MW5), Lot 1 (MW6) and Lot 755 (MW4). Bore details are provided in Table 2.2 (PB 2009[5]).

Table 2.2: Site Bore Details

Bore	Geology intersected	Screened interval (m BGL)	Standing Water Level (m BTOC	Groundwater Elevation (m AHD)	Date groundwater level was recorded
MW4	Weathered sandstone	4.0-6.9	1.615	47.185	01/06/2009
MW5	Sandy clay/ weathered sandstone	8.0-11.0	8.325	59.225	01/06/2009
MW6	Sandy clay/ weathered sandstone/shale	5.0-8.0	8.240	53.045	01/06/2009

2.7 Acid Sulfate Soils

The site is reported to be within an area with 'no known occurrences of acid sulfate soil materials' (PB 2009), as such no further consideration of potential requirements for management of such conditions is required.

[5] Parsons Brinkerhoff (PB) (2009), *Phase 2 Environmental Site Assessment Caddens Release, Kingswood, NSW, 2747*, July 2009, Ref No. PR_9627 Rev B

3. Site History

3.1 Aerial Photographs

Aerial photographs from 1947, 1965, 1986, 2004 and 2014 were presented in MCE (2014). A summary of the findings from the review of these photographs, as well as the 2010 and 2016 aerial photographs (NearMap 2016[6]), is presented below.

Table 3.1: Aerial Photograph Observations

Year	Description	Surrounding Land Use
1947	The site appears to have been utilised for agricultural purposes, including orchards, grazing and possibly market gardens. A dwelling is noted at the centre of the site on Lot 1. A treed area is evident in the western area of Lot 755.	The site is surrounded by rural residential / agricultural properties including possible uses as market gardens and orchards. A house and large shed is located on the western boundary of Lot 11. The roads of O'Connell Street and Caddens Road are present.
1961	The site is under similar land use, with a treed area in the northeastern corner of Lot 12, and possibly a dwelling.	Similar to earlier aerial photography.
1978	A garden centre appears to be operating on predominately the northern half of Lot 11, a house and sheds have been constructed on Lot 2 and an orchard is present on the northwest corner of Lot 755.	The State archives development appears to be under construction east of Lot 51 and a house and cultivated fields are south of Lot 2.
1986	Similar to 1978, although the garden centre on Lot 11 now appears to operate over the whole lot, and the eastern area of Lot 2 appears to be under active cultivation.	The footprint of the State Archives development has been expanded, and the building west of Lot 11 has been enlarged.
1998	Similar to 1986, although the dwelling on Lot 1 appears to have been demolished.	The footprint of the State Archives has been further expanded. The cultivated fields south of Lot 2 has been replaced by orchard plantings on the western half.
2011	Similar to 1998, however, active cultivation on Lot 2 has reduced.	The footprint of the State Archives has been further expanded.
2014	There appears to be no orchards or cultivated fields within the site, and the area is likely to be used for grazing only. The garden centre on Lot 11 appears inactive.	Similar to 2011, however, the area west of Lots 2 and 6 has been or is the progress of being developed for residential uses.
2016	Similar to 2014.	Similar to 2014, residential development complete.

Copies of the aerial photographs are included as **Appendix B.**

3.2 EPA Records

A search of the NSW EPA's public register maintained under the *Protection of the Environment Operations Act 1997 (POEO Act)* was undertaken on 20 September 2016 for the subject site and surrounding properties. The results of the search are presented in **Appendix C**. The search identified that there were no current or former prevention, clean-up or prohibition notices for the site and immediate surrounds. Further the site or adjoining properties have not been notified to the NSW EPA under Section 60 of the *Contaminated Lands Management Act* (1997) as contaminated land.

In addition, the search of the EPA's public register for current and historical environmental protection license (EPL) records issued under the POEO Act has not identified any documents associated with the site or surrounding properties.

[6] Nearmap (2016), 5 May 2016 aerial photograph, accessed 7 July 2016, http://maps.au.nearmap.com/

3.3 Australian and NSW Heritage Register

A search of the Australian Heritage Trust database and the NSW Heritage Inventory was undertaken and records are included in **Appendix D**. The search did not identify the presence of any items of national or state significance in the vicinity of the site.

3.4 Council Information

The site is zoned as R1 (General Residential) under the Penrith City Council LEP 2010. Under the LEP, permissible uses (with consent) for land zoned as R1 includes (but is not limited to) attached dwellings, bed and breakfast accommodation, boarding houses, child care centres, community facilities, dwelling houses, emergency services facilities, exhibition homes / villages, flood mitigation works, group homes, home businesses, hostels, information and education facilities, multi dwelling housing, neighbourhood shops, places of public worship, recreation areas, roads, and semi-detached dwellings.

Penrith City Council Development Control Plan 2014 (DCP) for Caddens states that a 'Phase 2 Environmental Site Assessment' must be lodged with a Development Application (DA) on any land identified as 'potentially contaminated'. The Figure E1.20 – Potentially Contaminated Land in the DCP indicates the site is potentially contaminated with the exception of Lot 51 DP 1189505.

3.5 Integrity Assessment

The information obtained from formal published sources noted above has been found to be in general agreement with the known history of the site.

Based on the range of sources and the general consistency of the historical information, it is considered that the historical assessment has an acceptable level of accuracy with respect to the potentially contaminating activities that historically occurred on site.

4. Conceptual Site Model

4.1 Areas of Environmental Concern

Based on the site history review, areas of environmental concern and associated potential contaminants of concern have been identified at the site, as noted in **Table 4.1**.

Table 4.1: Areas of Environmental Concern and Associates Contaminants of Potential Concern

Areas of Environmental Concern (AEC)	Contaminants of Potential Concern (COPC)
Potential impacts associated with the storage of drums, use and leakage of machinery associated with historic agricultural activities	Metals, TPH, BTEX, PAHs, VOCs, pesticides
Application of pest control chemicals during site agricultural and maintenance activities	Pesticides
Hazardous building materials	Asbestos and lead
Landfilling with soil and wastes derived from site activities	Metals, TPH, BTEX, PAHs, VOCs, pesticides, asbestos

4.2 Potentially Contaminated Media

It is considered that there is the potential for the natural soils to be impacted as a result previous / current site activities including the storage / spillage of chemicals. Near surface natural materials around areas where historic structures were located have the potential to be impacted by asbestos and / or lead paint. This may have resulted from the deterioration of structures and / or the demolition of structures without appropriate controls to minimise the potential for contamination of surface soils with material debris. Furthermore, surface soils have the potential to have been impacted based on the historical use of the site for agricultural purposes.

The is also the potential for filling to have taken place to level areas in the footprints of the site features and in the construction of dams, and the fill to include wastes generated on the site (e.g. agricultural, garden nursery, ash on-site burning, and demolition waste).

Within dams there is the potential for contaminants to accumulate in water and sediment from surface water run-off.

Dependent upon the leachability of potential contaminants within surface soils, the migration of contaminants into the underlying subsurface soils and groundwater may occur.

4.3 Potential for Migration, Exposure Pathways and Receptors

Contaminants generally migrate away from a site via a combination of windblown dusts, rainwater infiltration, groundwater migration and surface water runoff. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid/liquid and mobility characteristics);
- The extent of the contaminants (isolated or widespread);
- The location of the contaminants (surface soils or at depth); and
- The site topography, geology, hydrology and hydrogeology.

The potential contaminants identified as part of the site history review are generally in either a solid form (e.g. metals, asbestos, etc) or liquid form (e.g. fuel, pesticides, etc).

The site is predominantly vegetated which significantly reduces the potential for windblown contaminants to migrate from the site.

The potential for contamination migration via infiltration of water and subsequent migration through the soil profile is possible as the site is predominantly unsealed. Migration of contaminants via surface water movement is possible in around the site exhibiting low lying areas proximate to the site boundaries.

Given the unsealed nature of the site, there is potential for migration of contamination to groundwater although this potential is mitigated dependent on depth to groundwater and permeability of overlying soils.

4.4 Potential Exposure Pathways

Based on the COPC identified in various media as discussed above, the exposure pathways for the site include:

- Dermal;
- Ingestion; and
- Inhalation.

Due to the potential presence of impacted soil on ground surfaces in areas of the site that may be accessed by future residents, potential exposures to be considered include dermal, inhalation and ingestion exposure pathways.

As groundwater is not anticipated to be extracted under the proposed land use, dermal contact and ingestion of groundwater is considered to be unlikely. However, dependent on the depth to groundwater and the extent of contamination in near surface soils, there is a potential for exposure to groundwater during future subsurface activities. Furthermore, dermal contact and ingestion of potentially impacted surface water are considered to be potential exposure pathways.

4.5 Receptors

Potential receptors of environmental impact present within the site which will be required to be addressed with respect to the suitability of the site for the proposed use include:

- Excavation / construction / maintenance workers conducting activities at the site, who may potentially be exposed to COPCs through direct contact with impacted soils and / or groundwater present within excavations and / or inhalation of dusts / fibres associated with impacted soils;
- Future occupants/users of the site may potentially be exposed to COPCs through direct contact with impacted soils and / or ingestion of impacted soils and / or inhalation of dusts / fibres associated with impacted soils; and / or
- Offsite sensitive receptors of groundwater; and / or
- Onsite ecological receptors on vegetated areas of the site.

4.6 Preferential Pathways

For the purpose of this assessment, preferential pathways have been identified as natural and / or man-made pathways that result in the preferential migration of COPCs as either liquids or gases.

Man-made preferential pathways may be present at the site, generally associated with services that may be present beneath the existing ground surface near the area where former dwellings were located. Service lines are anticipated to have a higher permeability than the underlying natural soils.

5. Previous Investigations

The investigations which have been undertaken on the various lots now consolidated into the site are summarised below and assessed against the Conceptual Site Model presented in **Section 4**. Where previous investigations have not adequately assessed the potential complete pathways to the identified receptors, further investigation may be warranted.

5.1 Summary Previous Investigations

A brief summary of the previous investigations completed at the site is provided below.

Table 5.1: Investigation Summary

Existing Environmental Reports	Scope	Findings
Lot 11 DP522660		
Preliminary Contamination Assessment, Geotechnique Pty Ltd 28 June 2011 (12486/1-AA) Detailed Contamination Assessment & Remediation Action Plan, Geotechnique Pty Ltd, 10 October 2011 (12486/2-AA)	The scope included the collection and analysis of discrete and composited soil samples from 28 test pits and one augered location, with subsequent delineation sampling in the detailed assessment. Samples were selectively analysed for metals (arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn), total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCB), and asbestos.	Laboratory analysis indicated analytes were either not present (i.e. concentrations less than laboratory LOR), or present in the sampled soils at concentrations that do not pose a risk of hazard to human health or the environment, under a "residential with access to soil" form of development. The exceptions were elevated concentrations of Cu, Ni, and Zn that could potentially impact on the growth of certain plant species. Based on the soil type typical of the site (sandy clay), the revised phytotoxicity criteria adopted by the NSW EPA in 2013 would mean that there would be only some minor exceedances of the current criteria for Zn. Scattered bonded asbestos-cement pieces were also encountered on the ground surface at a localised area, and in test pits during the detailed assessment. Fill materials were encountered at depths to about 2.8m below the existing ground level. The Detailed Contamination Assessment included a remediation strategy for the identified impacts.

Existing Environmental Reports	Scope	Findings
Lot 12 DP 522660		
Phase 2 Environmental Site Assessment, Parsons Brinkerhoff (PB), July 2009 (2116943A PR_9627 RevB.doc). Preliminary Contamination Assessment, Geotechnique Pty Ltd 28 June 2011 (12486/1-AA)	The PB scope included the collection and analysis of 29 surface soil samples and 5 test pit soil sample locations, as well as one groundwater sample (MW5). Samples were analysed for organochlorine pesticides (OCPs), metals, total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and asbestos. The Geotechnique scope included assessing the same analytes as PB (except including PCB and omitting VOCs) at 39 test pit locations.	PB found the site to be generally underlain by natural material or reworked natural material. Elevated Cu and Zn concentrations relative to the phytotoxicity criteria were considered to represent natural soils. It was also noted, the current and past land uses as agricultural land indicated no adverse impact on flora and no signs of plant stress were observed during site inspections. No subsurface fibrous cement sheeting was found and no soil samples detected any asbestos containing materials. However, some isolated fibrous cement fragments were observed at the surface at two locations in the upper area of the lot. The isolated fragments were bonded and non-friable in nature, therefore the likelihood of the small fragments impacting the underlying soils was considered very low. The source of the isolated fragments was considered as probably from buildings on the site. No visual observations of contamination from former or present land uses or aesthetic degradation was noted. Groundwater was found to be free from significant contamination with the exception of dissolved copper and zinc that was considered to represent background levels in the area. The lot was considered by PB to be suitable for the proposed residential land use with gardens and accessible soil. An audit of the lot conducted by an EPA Accredited Auditor (Roger Parker) concluded in September 2009 that the site was suitable for residential land use with accessible soil, including gardens (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry. Geotechnique assessment of Lot 12 was consistent with PB.
Lot 51 DP 1189505		
Preliminary Environmental Site Assessment, JBS&G Pty Ltd, 29 November 2013 (43123-56143 (Rev 0))	The JBS&G scope included a review of the available information, including Council documentation, aerial photographs, WorkCover NSW records, NSW EPA records and Heritage records, as well as a detailed site inspection, to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs).	Based on the review it was considered unlikely that activities at the site would have contaminated the land to a degree that could not be readily managed/remediated to enable future residential land use. In relation to contamination warranting further investigation, the finding was consistent with the DCP.
Lot 101 DP 564332		
Phase 2 Environmental Site Assessment, Parsons Brinkerhoff, July 2009 (2116943A PR_9627 RevB.doc). Preliminary Contamination Assessment, Geotechnique Pty Ltd 28 June 2011 (12486/1-AA).	The PB scope included the collection and analysis of 26 surface soil samples and 4 test pit sample locations, as well as one groundwater sample (MW6). Samples were analysed for OCPs, metals, TPH, benzene, BTEX, PAHs, VOCs, and asbestos. The Geotechnique scope included assessing the same analytes as PB (except including PCB and omitting VOCs) at 45 test pit locations.	PB found Lot 101 to have similar characteristics as Lot 12. However, no surface or subsurface fibrous cement sheeting was found and no soil samples detected any asbestos containing materials. For groundwater there was elevated dissolved chromium as well as copper and zinc, the concentrations were considered to represent background levels in the area. The lot was considered to be suitable for the proposed residential land use with gardens and accessible soil. An audit of the lot conducted by an EPA Accredited Auditor (Roger Parker) concluded in September 2009 that the site was suitable for residential land use with accessible soil, similar to Lot 12. Geotechnique assessment of Lot 101 was consistent with PB.

Existing Environmental Reports	Scope	Findings
Lot 1 DP 515678		
JBS&G completed a Preliminary Environmental Site Assessment for Legacy Property in September 2016.	The JBS&G scope included a review of previous reports on adjacent properties, aerial photographs, NSW EPA records and Heritage records.	Based on the review it was considered unlikely that potential contamination (if any) associated with prior land uses would preclude the residential development of the lot.
Lot 6 DP 502333		
JBS&G completed a Preliminary Environmental Site Assessment for Legacy Property in September 2016.	The JBS&G scope included a review of previous reports on adjacent properties, aerial photographs, NSW EPA records and Heritage records.	Based on the review it was considered unlikely that potential contamination (if any) associated with prior land uses would preclude the residential development of the lot.
Lot 2 DP 502333		
JBS&G completed a Preliminary Environmental Site Assessment for Legacy Property in September 2016.	The JBS&G scope included a review of previous reports on adjacent properties, aerial photographs, NSW EPA records and Heritage records.	Based on the review it was considered unlikely that potential contamination (if any) associated with prior land uses would preclude the residential development of the lot.
Lot 755 DP 1180111		
Phase 2 Environmental Site Assessment, Parsons Brinkerhoff, July 2009 (2116943A PR_9627 RevB.doc).	The PB scope included the collection and analysis of 43 surface soil samples and 11 test pit soil sample locations, as well as one groundwater sample (MW4). Samples were analysed for OCPs, metals, TPH, benzene, BTEX, PAHs, VOCs, and asbestos.	PB found Lot 755 to have similar characteristics as Lot 12. However, no surface or subsurface fibrous cement sheeting was found and no soil samples detected any asbestos containing materials. Groundwater was found to be free from significant contamination with the exception of dissolved copper and zinc that was considered to represent background levels in the area The lot was considered to be suitable for the proposed residential land use with gardens and accessible soil. An audit of the site conducted by an EPA Accredited Auditor (Roger Parker) concluded in 2011 the site was suitable for residential with accessible soil, including gardens (minimal home-grown produce, excluding poultry), day care centre, preschool, primary school etc.

5.2 QA/QC Data Evaluation

The investigations outlined in **Section 5.1** referenced the use of guidelines made or approved by the NSW Environment Protection Authority (EPA). Where intrusive investigation programs were undertaken a Data Quality Objective (DQO) process was applied to the investigation activities for the areas subject to investigation, including incorporation of a QA/QC program. The adherence to the program was assessed by the consultants as satisfactory and that the results of the investigation could be relied upon.

5.3 Assessment of Historical Data against Current Guidelines

Available data from the previous investigations were re-assessed against the health-based and environmental investigation and screening levels presented in the amended National Environment Protection (Assessment of Site Contamination) Measure (NEPM) (NEPC 2013[7]).

[7] National Environment Protection Council (NEPC) 2013, *National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999*, amended April 2013

Based on this review, it was noted that concentrations of copper and zinc from some soil samples analysed from the site were greater than the environmental investigation / screening levels as presented in the NEPM. It is noted however, that the concentrations reported for these metals are within the range of background concentrations as presented in the Contaminated Sites Monograph Series 1995 (Olszowy, et. al. 1995[8]).

5.4 Data Gaps

In an area which shares a similar rural residential land use history, contamination related investigations have been conducted over time and have encompassed much of the site. The scope of the investigations has been consistent with the Conceptual Site Model developed for the site. In the investigation no contamination has been identified which would preclude the residential development of the site.

The vast majority of laboratory results from the intrusive investigations have been lower than detection limits or lower than the adopted assessment criteria. The consistency of the results indicates the level of uncertainty in the assessments is low and the probability that contamination may be present that has not been detected is also considered to be low.

However, three lots (Lot 1, Lot 2 and Lot 6) have had no reported contamination investigations as required by Penrith City Council's DCP for Caddens which requires a Phase 2 Environmental Site Assessment to accompany DAs for these lots. In order to address this data gap, supplementary intrusive contamination investigations have been undertaken. The investigations and results are provided in **Section 6**.

[8] Olszowy, H. Torr, P., and Imray, P. (Olszowy, et. al.) (1995), *Trace Element Concentrations in Soils from Rural and Urban Areas of Australia*, Contaminated Sites Monograph Series No. 4, 1995

6. Supplementary Investigation (Lots 1, 2 and 6)

Three lots within the site (Lot 1 in DP 515678, Lot 2 in DP 502333 and Lot 6 in DP 502333) have not been the subject of intrusive contamination investigations.

In order to complete contamination investigations to a similar level as investigations on other lots within the site, as well as satisfy the Penrith City Council's DCP for Caddens which requires a Phase 2 Environmental Site Assessment to accompany DAs, a program of soil sampling was completed for the Lots 1, 2 and 6.

6.1 Sampling and Analysis Plan

A Sampling and Analysis Plan was developed for the Lots 1, 2 and 6 based on the Conceptual Site Model presented in **Section 4** and the Data Quality Objectives (DQOs) presented in **Appendix E**.

6.1: Proposed Supplementary Investigations

Site	Site Usage	Intrusive Site Investigations
Lot 1 DP 515678 Address: 187 Caddens Road Site Area: Approx. 2.1 ha	Rural residential, including remains of derelict brick building.	Fifteen locations were subject to intrusive investigation. The level of assessment was based on the low risk of contamination and was half the sampling density tabulated in EPA guidance. This reduced sampling density is consistent with the density of investigation adopted for other lots within the site (PB, 2009). The program of investigation targeted areas of potential concern identified in the desktop review and inspection, as well as grid sampling in remaining areas.
Lot 2 DP 502333 Address: 189 Caddens Road Site Area: Approx. 1.75 ha	Rural residential with possible agricultural cultivation.	Based on the likely low risk of contamination, 14 locations sampled based on the reduced sampling density adopted elsewhere, targeting areas of potential concern as well as grid sampling in remaining areas.
Lot 6 DP 502333 Address: 189 Caddens Road Site Area: Approx. 0.07 ha	Road easement for access to rural residential properties.	Based on the likely low risk of contamination, 3 locations sampled based on the reduced sampling density adopted elsewhere, targeting areas of potential concern.

JBS&G contracted Eurofins MGT (Eurofins) as the primary laboratory for the required chemical analyses. The secondary laboratory was Envirolab Services Pty Ltd (Envirolab). Both laboratories are NATA accredited for the required analyses. In addition, the laboratories were required to meet JBS&G's internal quality assurance/quality control (QA/QC) requirements. The completed analysis schedule is summarised in **Table 6.2.**

Table 6.2: Analytical Schedule

Sample Type	Sample Type	No. of Sampling Locations	Analyses (exc. QA/QC)
Lot 1 DP 515678 Address: 187 Caddens Road	Soil	14 Test Pit Locations and 1 Hand Auger Location.	Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 18 samples PAH – 7 samples TRH/BTEX – 20 samples Asbestos Identification – 1 Sample OCPs – 8 samples Physical Parameters (CEC, pH and % Clay) – 2 samples
	Material	1 Surficial Fibrous Cement Sheeting Fragment	Asbestos Identification – 1 Sample
Lot 2 and 6 DP 502333 Address: 189 Caddens Road	Soil	17 Test Pit Locations and 3 Surficial Samples	Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 20 samples PAH – 8 samples TRH/BTEX – 22 samples Asbestos Identification – 4 Sample OCPs – 9 samples Physical Parameters (CEC, pH and % Clay) – 2 samples

In addition to the above primary analyses, to address the DQIs, field duplicate and triplicate soil samples were analysed at a rate of one per 20 primary samples for contaminants of concern. A rinsate sample was obtained from non-disposable soil sampling equipment, plus a single trip spike and single trip blank accompanied the sample batch.

6.2 Assessment Criteria

6.2.1 Regulatory Guidelines

Development of site assessment criteria and the associated scope of investigation was undertaken with consideration to aspects of the following guidelines, as relevant:

- *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*, National Environment Protection Council (NEPC 2013);
- *Contaminated Sites: Sampling Design Guidelines*, NSW EPA, 1995 (EPA 1995);
- *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*, NSW OEH, 2011 (OEH 2011); and
- *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme*, 2nd Edition, NSW EPA, 2006 (DEC 2006).

6.2.2 Assessment Criteria Selection

As per the decision process for assessment of urban development site (DEC 2006), a set of health and ecological assessment thresholds derived from NEPC (2013) was used for evaluation of site contamination data collected for the assessment. The site is zoned R1 – General Residential (Penrith LEP 2010). The soil data were therefore compared against NEPM (NEPC 2013) land use criteria consistent with residential scenario with accessible soils, less than 10% home grown fruit and vegetable intake but no poultry, and also includes childcare centres, preschools and primary schools.

Should a more sensitive land use be proposed, such as a residential land use with an anticipated consumption of >10% of home grown fruit and vegetable intake and / or poultry, it is recommended that a site specific risk assessment be undertaken to determine the suitability of the site for these uses.

The adopted site criteria are presented in **Table A,** the soil analytical summary tables. Relevant guidelines are presented below:

- Health based Investigation Levels (HILs) for residential with garden/accessible soils (home grown produce <10% fruit and vegetable intake and no poultry) and also includes childcare centres, preschools and primary schools (HIL-A);
- Health Screening Levels (HSLs) for petroleum hydrocarbons considering potential for vapour intrusion within fine grained soils for low-high density residential land use (HSL A & HSL B);
- Ecological Investigation/Screening Levels (EILs/ESLs) for urban residential land use; and
- Health screening levels for asbestos contamination in soil for residential land use with garden/accessible soils including children's day care centres, preschools and primary schools (HSL A).

Where there are no NSW EPA endorsed thresholds for individual COPC the laboratory limit of reporting (LOR) was adopted as an initial screening value for the purposes of this assessment.

6.2.3 Derivation of Site Specific Ecological Investigation Levels

Site specific EILs were derived in accordance with the methodology outlined within NEPM (NEPC 2013). Four representative soil samples (TP01 0-0.1, TP11 0.2-0.3, TP18 0.2-0.3 and TP32 0.2-0.3) were submitted for laboratory analysis to determine physiochemical parameters including Cation

Exchange Capacity (CEC), pH and % Clay. Detailed laboratory reports and chain of custody documentation is provided in **Appendix F**.

Values for Average Background Concentrations (ABCs) were obtained from Trace Element Concentrations in Soils from Rural and Urban Areas of Australia (Olzworthy *Et Al*. 1995).

Table 6.5 details ABCs, Added Contaminant Limits and derived EILs. All values are in mg/kg unless otherwise specified.

Table 6.5: Derivation of EILs

Physical Parameters			
Cation Exchange Capacity (meq/100g)		**pH (pH units)**	**% Clay**
16		6.7	33
19		7.9	25
14		7.3	33
15		6.9	33
16 (Average)		7.2 (Average)	32 (Average)
EILS			
Contaminant	**ABC**	**ACL**	**EIL**
Zinc	142	400	542
Copper	49	190	239
Chromium (III)	12	400	412
Nickel	6	170	176
Lead	303	1100	1403
Arsenic	8	100	108
DDT	-	180	180
Naphthalene	-	170	170

6.3 Results

6.3.1 Quality Assurance/Quality Control

A detailed Quality Assurance/Quality Control (QA/QC) analysis was undertaken on the analytical data set pertaining to the data gap investigation and is presented in **Appendix G.** Based on the results of the field and laboratory QA/QC program, the soil data is of an acceptable quality upon which to draw conclusions regarding the environmental condition of the site.

6.3.2 Soil Observations

Soil sampling was conducted on 10 October 2016 at the sampling locations shown on **Figure 4**. Borehole logs are included in **Appendix H**.

The majority of the investigation area was unsealed ground covered grass tussocks and larger vegetation, with the remainder of the unsealed surfaces either exposed or occupied by some small shrubs and larger trees.

A summary of soil conditions present at the site is presented as follows. A total of 31 test pits and one hand auger borehole were advanced from the ground surface to natural material. Test pits generally encountered natural clays and silty clays at the ground surface with the exception of three locations. At two locations (TP13 and TP16) shallow fill (0.2 m bgs) was encountered and at one location (TP26) deep fill was encountered (0.8 m bgs). Fill material at all three locations encountered was the result of anthropogenic items mixed with natural soils being laid in small stockpiles, slightly elevated from the surrounding ground surface. No burial of fill material was encountered at any of the test pit locations. Fill material generally comprised site won natural materials (clayey silts and silty clays varying in colour, primarily brown, red and orange with low to no plasticity and varying in consistency from soft to hard) silty clay with inclusions of anthropogenic materials in the form of bricks, tiles, sandstone, concrete cobbles, glass, igneous gravels and concrete boulders. No ACM, odours or staining was observed within the soil profile at any investigation location.

Surficial ACM was observed at some locations within the rubble from an historical demolition of onsite structures as indicated on **Figure 3**. Odourous surficial soil was observed within the vicinity of the septic tank identified to the east of the residence on Lot 2.

Surficial staining was observed surrounding a fence post to the southeast of the residence, the current site occupant advised JBS&G that the staining was from the application of sump oil to the fence post. Minor areas of burnt rubbish were observed as indicated on **Figure 3** and rubbish was observed on site surfaces in several locations. No odours or staining were observed within the soil profile at any investigation location. No PID readings above the instrument's level of detection were observed during field screening for volatiles during soil sampling.

6.3.3 Soil Contamination Analytical Results

Detailed laboratory reports and chain of custody documentation are provided in **Appendix F**. Summarised soil analytical data for COPCs are presented in **Table A** and are discussed in the following sections.

6.3.3.1 Metals

All individual heavy metals concentrations were reported at concentrations less than the adopted health and ecological based assessment criteria.

6.3.3.2 PAHs

Total PAH, B(a)P and carcinogenic PAHs as B(a)P Toxic Equivalence Quotient (TEQ) values for all analysed samples were reported at concentrations less than the adopted site assessment criteria.

6.3.3.3 TRH and BTEX

Concentrations of all TRH were reported below the laboratory LOR and the adopted health and ecological site assessment criteria in all soil samples selected for analysis.

Concentrations of all BTEX were reported below the laboratory LOR and the adopted health and ecological site assessment criteria in all soil samples selected for analysis.

6.3.3.4 OCPs/PCBs

Concentrations of OCP compounds were reported below the adopted health and ecological assessment criteria for all soil samples selected for analysis.

Concentrations of total PCB compounds were reported below the laboratory LOR and the adopted health and ecological assessment criteria for all soil samples selected for analysis

6.3.3.5 Asbestos

Bonded ACM was observed on site surfaces during investigation within the vicinity of the demolished residential structure present on Lot 1. An asbestos fragment was also detected in the surface soil sample submitted for analysis from location TP16 0-0.1 on Lot 2.

6.4 Discussion

Based on the decision making process for assessing urban redevelopment sites detailed in DEC (2006) and discussed in **Appendix E**, the decisions required to be made are discussed below.

6.4.1 Potential Risks to Future Onsite Receptors

Concentrations of COPC in all samples analysed were reported below the adopted site criteria. Asbestos containing material (ACM) was observed on site surfaces within the vicinity of the demolished residential structure in Lot 6, as shown in **Figure 3**, which constitutes an exceedance of the HSL criterion for visible ACM. With the appropriate removal of incidental finds of ACM, there are no unacceptable risks to future human site occupants or ecological receptors under the proposed land use scenario.

6.4.2 Background Soil Contamination

Metals concentrations within soil samples analysed were within published background ranges as outlined in **Section 6.2**.

6.4.3 Chemical Mixtures

There were no soils identified with significant concentrations of more than one contaminant of concern and so no potential chemical mixtures identified during the investigation that may pose an unacceptable contamination risk at the site with respect to future site users.

6.4.4 Aesthetic Issues

As discussed in **Section 6.3.2**, surficial staining was observed surrounding a fence post to the south east of the residence on Lot 2. Minor areas of rubbish, in addition to incinerated rubbish, were observed in several locations. This may pose an unacceptable aesthetic issue requiring management prior to the site being occupied for the proposed land use.

Odourous surficial soil was observed within the vicinity of the septic tank identified to the east of the residence on Lot 2. No other odourous soils were observed during the site inspection and sampling activities.

Visible ACM in the form of fibre cement fragments were observed in the vicinity of the demolished residential building. This poses an unacceptable aesthetic issue which will require management prior to the site being utilised for the proposed land use.

6.4.5 Potential Migration of Contaminants

Based on the absence of significant contaminant mass in soils, unacceptable contaminant migration risks are not apparent for the investigation area.

6.4.6 Site Management Strategy

Aesthetic risks can be addressed prior to the investigation area being utilised for the proposed land use by an emu pick of visible ACM from site surfaces, the disposal of surficial rubbish and disposal of the incinerated rubbish. Odourous soils within the vicinity of the septic tank, if identified as posing an unacceptable aesthetic risk, should be disposed of or otherwise controlled to limit their odour emission.

Typical site management controls including protocols to manage unexpected finds should be implemented during any ground disturbance works associated with site development.

7. Conclusions and Recommendations

Based on the review of available information, site inspection and supplementary intrusive investigations, no contamination which would preclude the residential development of the site has been identified.

It is recommended that the RAP developed for Lot 11 DP522660 is implemented prior to redevelopment of the lot.

For the overall site, and based on the scope of work completed for this assessment and subject to the limitations in **Section 8**, it is recommended that work, health, safety and environmental management controls (including protocols to manage unexpected finds) should be implemented during any future ground disturbance works.

8. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

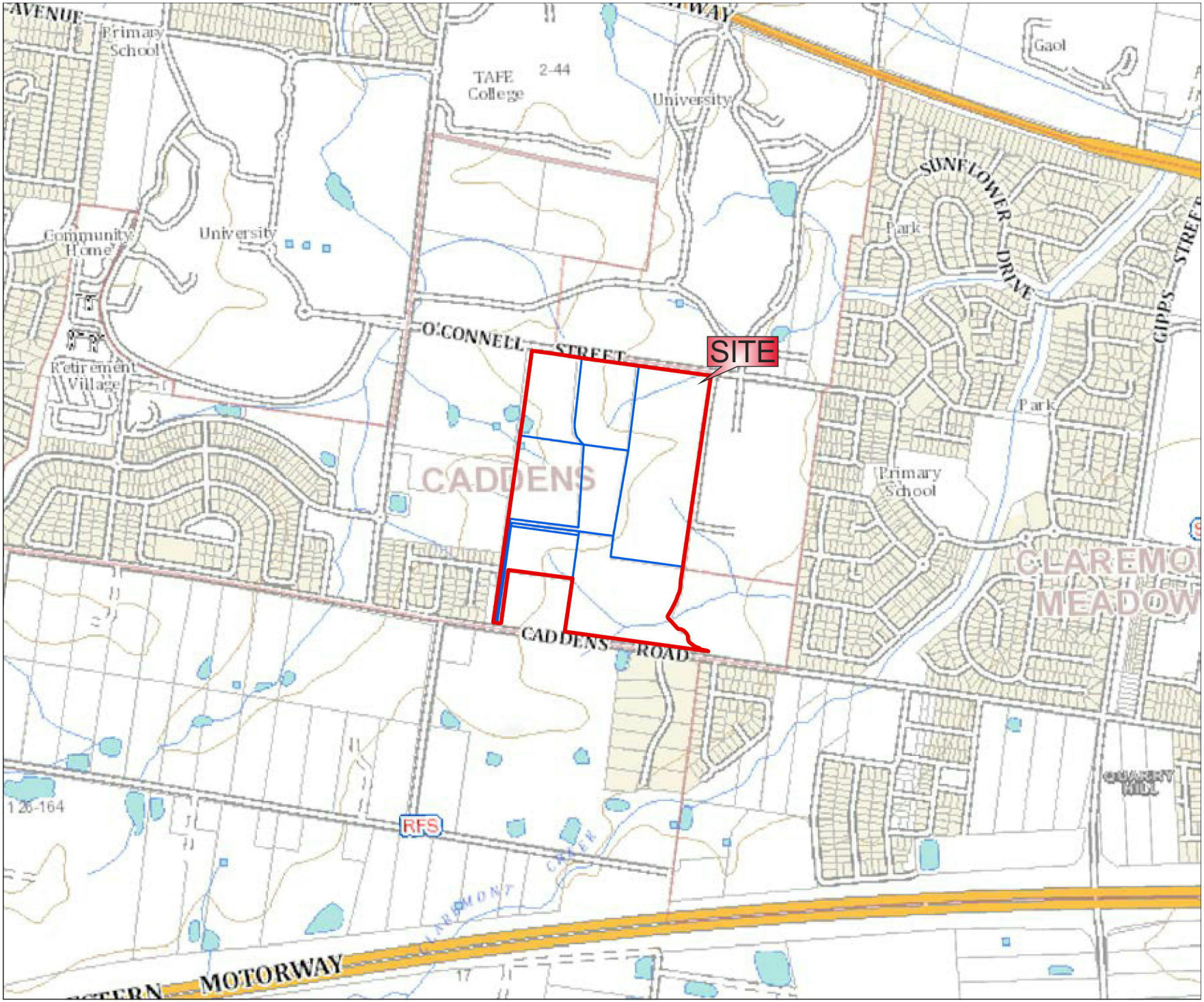
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

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

Figures



Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: R01 Rev A | Date: 19-Oct-2016

Drawn By: SE | Checked By: RH

Scale 1:12,500

0 150 300

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road, Caddens NSW

SITE LOCATION

FIGURE 1

Reference: https://maps.six.nsw.gov.au/ Accessed 21/09/2016

Legend:
- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116	
Client: Legacy Property	
Version: R01 Rev A	Date: 19-Oct-2016
Drawn By: SE	Checked By: RH
Scale 1:4,000	
0 40 80 metres	
Coor. Sys. GDA 1994 MGA Zone 56	

Caddens Road, Caddens NSW

SITE LAYOUT

FIGURE 2

Reference: https://maps.six.nsw.gov.au/ Accessed 21/09/2016

Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116	
Client: Legacy Property	
Version: R01 Rev A	Date: 19-Oct-2016
Drawn By: SE	Checked By: RH

Scale 1:4,000

0 40 80

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road, Caddens NSW

SITE FEATURES

FIGURE 3

Reference: https://maps.six.nsw.gov.au/ Accessed 21/09/2016

Reference: https://maps.six.nsw.gov.au/ Accessed 21/09/2016

Legend:

- Approximate Site Boundary
- Approximate Lot Boundary
- Test Pit Location

JBS&G

Job No: 52116

Client: Legacy Property

Version: R01 Rev A	Date: 19-Oct-2016
Drawn By: SE	Checked By: RH

Scale 1:4,000

0 40 80

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road, Caddens NSW

TEST PIT LOCATIONS

FIGURE 4

Soil Analytical Results – Table A

Table A - Soil Analytical results
Project Number: 52116
Project Name: Caddens DSI

Sample ID	Location	Sample Depth	Sample Date	Matrix Type	Lithological Type	Lab Report Number	Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)					
							Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Total)	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	C6-C10 Fraction	C6 - C10 less BTEX (F1)	>C10 - C16 less Naphthalene (F2)
							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
EQL							2.00	0.40	1.00	1.00	1.00	0.10	1.00	1.00	20.00	20.00	50.00	50.00	50.00	50.00	100.00	100.00	20.00	20.00	50.00
NEPC 2013 EIL, EILs Aged Sediment							108			239	1403		176	542											
NEPM 2013 ESL Urban Residential and Public Open Space, Fine Soil																				120	1300	5600	180	180	120
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Fine																				1000	3500	10000	800		
NEPM 2013 Soil HIL A							100	20	100	6000	300	40	400	7400											
NEPM 2013 Soil HSL A - Sensitive Setting																								45	110
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Clay 0 to <1m																								50	280
TP01_0-0.1	TP01	0-0.1	10/10/2016	Soil	Natural	519296	13	<0.4	23	36	20	<0.1	23	56	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP02_0-0.1	TP02	0-0.1	10/10/2016	Soil	Natural	519296	8.7	<0.4	21	37	17	<0.1	23	57	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP02_0.2-0.3	TP02	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03_0-0.1	TP03 0 - 0.1	0-0.1	10/10/2016	Soil	Natural	519296	8.4	<0.4	20	41	18	<0.1	21	64	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC01		0-0.1	10/10/2016	Soil	Natural	519296	7.2	<0.4	20	44	17	<0.1	22	68	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC01A		0-0.1	10/10/2016	Soil	Natural	155048	5	<0.4	11	29	13	<0.1	15	42	<25	<50	<100	<100	-	<50	<100	<100	<25	<25	<50
TP03_0.2-0.3	TP03	0.2-0.3	10/10/2016	Soil	Natural	519296	7.1	<0.4	21	42	16	<0.1	21	59	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP04_0-0.1	TP04	0-0.1	10/10/2016	Soil	Natural	519296	8.1	<0.4	24	31	15	<0.1	20	45	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP05_0-0.1	TP05	0-0.1	10/10/2016	Soil	Natural	519296	8.6	<0.4	24	43	16	<0.1	31	81	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP06_0-0.1	TP06	0-0.1	10/10/2016	Soil	Natural	519296	8.1	<0.4	18	28	21	<0.1	22	52	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP07_0.0-0.1	TP07	0-0.1	10/10/2016	Soil	Natural	519296	15	<0.4	35	41	16	0.1	31	81	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP07_0.2-0.3	TP07	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP08_0-0.1	TP08	0-0.1	10/10/2016	Soil	Natural	519296	9.3	<0.4	24	34	18	<0.1	21	60	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP08_0.2-0.3	TP08	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09_0-0.1	TP09	0-0.1	10/10/2016	Soil	Natural	519296	5	<0.4	22	31	15	<0.1	22	52	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP10_0-0.1	TP10	0-0.1	10/10/2016	Soil	Natural	519296	11	<0.4	23	35	27	<0.1	23	75	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP11_0-0.1	TP11	0-0.1	10/10/2016	Soil	Natural	519296	11	<0.4	26	37	23	<0.1	28	72	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP11_0.2-0.3	TP11	0.2-0.3	10/10/2016	Soil	Natural	519296	9.7	<0.4	24	37	21	<0.1	29	72	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP12_0-0.1	TP12	0-0.1	10/10/2016	Soil	Natural	519296	6	<0.4	28	33	20	<0.1	32	64	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP13_0-0.1	TP13	0-0.1	10/10/2016	Soil	Fill	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14_0-0.1	TP14	0-0.1	10/10/2016	Soil	Natural	519296	8.1	<0.4	29	34	27	<0.1	29	76	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP14_0.2-0.3	TP14 0.2-0.3	0.2-0.3	10/10/2016	Soil	Natural	519296	8.5	<0.4	28	32	28	<0.1	27	68	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC02		0.2-0.3	10/10/2016	Soil	Natural	519296	8.9	<0.4	39	41	31	<0.1	35	87	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC02A		0.2-0.3	10/10/2016	Soil	Natural	155048	8	<0.4	25	28	20	<0.1	23	56	<25	<50	<100	<100	-	<50	<100	<100	<25	<25	<50
TP15_0-0.1	TP15	0-0.1	10/10/2016	Soil	Natural	519296	7.5	<0.4	24	30	21	<0.1	26	66	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP16_0-0.1	TP16	0-0.1	10/10/2016	Soil	Fill	519296	8.6	<0.4	30	16	21	<0.1	21	33	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP16_0.2-0.3	TP16	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP17_0-0.1	TP17	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP17_0.2-0.3	TP17	0.2-0.3	10/10/2016	Soil	Natural	519296	10	<0.4	23	33	22	<0.1	27	64	-	-	-	-	-	-	-	-	-	-	-
TP18_0-0.1	TP18	0-0.1	10/10/2016	Soil	Natural	519296	8.1	<0.4	19	23	21	<0.1	15	66	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP18_0.2-0.3	TP18	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19_0-0.1	TP19	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP19_0.2-0.3	TP19	0.2-0.3	10/10/2016	Soil	Natural	519296	19	<0.4	29	41	24	<0.1	31	76	-	-	-	-	-	-	-	-	-	-	-
TP20_0-0.1	TP20	0-0.1	10/10/2016	Soil	Natural	519296	50	<0.4	30	45	9.9	<0.1	6.4	82	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP21_0-0.1	TP21	0-0.1	10/10/2016	Soil	Natural	519296	9.2	<0.4	24	25	21	<0.1	18	44	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP21_0.2-0.3	TP21	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP22_0-0.1	TP22	0-0.1	10/10/2016	Soil	Natural	519296	7.9	<0.4	19	23	21	<0.1	16	54	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP23_0-0.1	TP23	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP23_0.2-0.3	TP23	0.2-0.3	10/10/2016	Soil	Natural	519296	8.4	<0.4	32	37	17	<0.1	27	58	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP24_0-0.1	TP24	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP25_0-0.1	TP25	0-0.1	10/10/2016	Soil	Natural	519296	9.9	<0.4	20	33	19	<0.1	19	44	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP26_0-0.1	TP26	0-0.1	10/10/2016	Soil	Fill	519296	8.3	<0.4	33	38	22	<0.1	27	67	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP26_0.2-0.3	TP26	0.2-0.3	10/10/2016	Soil	Fill	519296	7.4	<0.4	26	34	18	<0.1	26	63	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP27_0-0.1	TP27	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP27_0.2-0.3	TP27	0.2-0.3	10/10/2016	Soil	Natural	519296	5	<0.4	12	27	13	<0.1	7.1	23	-	-	-	-	-	-	-	-	-	-	-
TP28_0-0.1	TP28	0-0.1	10/10/2016	Soil	Natural	519296	9.9	<0.4	27	28	29	<0.1	21	57	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP29_0-0.1	TP29 0-0.1	0-0.1	10/10/2016	Soil	Natural	519296	8.7	<0.4	42	35	25	<0.1	33	70	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC03		0-0.1	10/10/2016	Soil	Natural	519296	9.7	<0.4	52	40	28	<0.1	39	90	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
QC03A		0-0.1	10/10/2016	Soil	Natural	155048	8	<0.4	36	27	19	<0.1	27	65	<25	<50	<100	<100	-	<50	<100	<100	<25	<25	<50
TP30_0-0.1	TP30	0-0.1	10/10/2016	Soil	Natural	519296	8.7	<0.4	23	31	22	<0.1	24	67	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP31_0-0.1	TP31	0-0.1	10/10/2016	Soil	Natural	519296	20	<0.4	25	31	19	<0.1	26	62	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP32_0-0.1	TP32	0-0.1	10/10/2016	Soil	Natural	519296	5.4	<0.4	24	33	16	<0.1	26	58	<20	<20	<50	<50	<50	<50	<100	<100	<20	<20	<50
TP32_0.2-0.3	TP32	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ACM01	ACM01	Surface	10/10/2016	Fragment	-	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01	SS01	Surface	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_VEGE PATCH	SS02	Surface	10/10/2016	Soil	Natural	519296	8.4	<0.4	17	30	18	<0.1	17	90	-	-	-	-	-	-	-	-	-	-	-
SS03_DRAIN	SS03	Surface	10/10/2016	Soil	Natural	519296	6.2	<0.4	25	74	30	0.1	24	190	-	-	-	-	-	-	-	-	-	-	-

Sample ID	BTEX						Polycyclic Aromatic Hydrocarbons																						Chlorinated Benzenes
	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene (Total)	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Carcinogenic PAHs as B(a)P TPE	Phenanthrene	Pyrene	PAHs (Total)	Total Positive PAHs	Hexachlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.10	0.10	0.10	0.20	0.10	0.30	0.10	0.10	0.10	0.10	0.05	0.50	0.50	0.50	0.50	0.10	0.50	0.10	0.10	0.10	0.10	0.10	0.10		0.10	0.10	0.50		0.05
NEPC 2013 EIL, EILs Aged Sediment																							170						
NEPM 2013 ESL Urban Residential and Public Open Space, Fine Soil	65	125	105			45					0.7																		
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Fine																													
NEPM 2013 Soil HIL A			160																								300		10
NEPM 2013 Soil HSL A - Sensitive Setting	0.5	55				40																	3						
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Clay 0 to <1m	0.7	NL	480			110																	5						
TP01_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP02_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP02_0.2-0.3	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP03_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QC01	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QC01A	<0.2	<1	<0.5	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-
TP03_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP04_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP05_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP06_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP07_0.0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP07_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP08_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP08_0.2-0.3	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP09_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP10_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP11_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP11_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP12_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	<0.05
TP13_0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP14_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QC02	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
QC02A	<0.2	<1	<0.5	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-
TP15_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP16_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP16_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP17_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP17_0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP18_0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP19_0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP21_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP21_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP22_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	<0.05
TP23_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP23_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP24_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP25_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP26_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP26_0.2-0.3	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP27_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP27_0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	<0.05
TP29_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	<0.05
QC03	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	<0.05
QC03A	<0.2	<1	<0.5	<2	<1	-	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.172#2	<0.1	<0.1	-	0#6	<0.1
TP30_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP31_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	-
TP32_0-0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
TP32_0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ACM01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05
SS02_VEGE PATCH	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#5	<0.5	<0.5	<0.5	-	<0.05
SS03_DRAIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data Comments

#1 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#2 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#3 No respirable fibres detected
#4 Organic fibres detected.
#5 ESDAT Combined.
#6 NIL (+)VE
#7 Nil

Table A - Soil Analytical results
Project Number: 52116
Project Name: Caddens DSI

	Organochlorine Pesticides																									Asbestos										Asbestos		Asbestos - Trace Analysis				
	Aldrin	4,4-DDE	Aldrin + Dieldrin (Sum of Total)	Dieldrin	DDD	alpha-BHC	DDT	DDT+DDE+DDD (Sum of Total)	beta-BHC	alpha-Chlordane	Chlordane	delta-BHC	gamma-Chlordane	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Approx. Sample Mass	Asbestos from ACM in Soil	Mass ACM	Mass Asbestos in ACM	Mass FA	Asbestos from FA & AF in Soil	Mass Asbestos in FA	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Asbestos ID in Soil	Synthetic Fibres - Comment	ACM - Comment	AF - Comment	FA - Comment	Organic Fibres - Comment	Respirable Fibres - Comment
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	%w/w	g	g	g	%w/w	g	g	g	g	Comment	Comment	Comment	Comment	Comment	Comment	Comment
EQL	0.05	0.05		0.05	0.05	0.05	0.05		0.05		0.10	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1.00																	
NEPC 2013 EIL, EILs Aged Sediment							180																																		
NEPM 2013 ESL Urban Residential and Public Open Space, Fine Soil																																									
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Fine																																									
NEPM 2013 Soil HIL A			6					240			50						10			6			300	20																	
NEPM 2013 Soil HSL A - Sensitive Setting																																									
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Clay 0 to <1m																																									

Sample ID	Location	Sample Depth	Sample Date	Matrix Type	Lithological Type	Lab Report Number																																					
TP01_0-0.1	TP01	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02_0-0.1	TP02	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02_0.2-0.3	TP02	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03_0-0.1		0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01	TP03 0 - 0.1	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC01A		0-0.1	10/10/2016	Soil	Natural	155048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03_0.2-0.3	TP03	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04_0-0.1	TP04	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05_0-0.1	TP05	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP06_0-0.1	TP06	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07_0.0-0.1	TP07	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07_0.2-0.3	TP07	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08_0-0.1	TP08	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08_0.2-0.3	TP08	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09_0-0.1	TP09	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_0-0.1	TP10	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_0-0.1	TP11	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_0.2-0.3	TP11	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12_0-0.1	TP12	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP13_0-0.1	TP13	0-0.1	10/10/2016	Soil	Fill	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	578	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#4]	1 [#3]
TP14_0-0.1	TP14	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14_0.2-0.3		0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	TP14 0.2-0.3	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A		0.2-0.3	10/10/2016	Soil	Natural	155048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP15_0-0.1	TP15	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16_0-0.1	TP16	0-0.1	10/10/2016	Soil	Fill	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	740	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#4]	1 [#3]
TP16_0.2-0.3	TP16	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17_0-0.1	TP17	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17_0.2-0.3	TP17	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_0-0.1	TP18	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_0.2-0.3	TP18	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19_0-0.1	TP19	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19_0.2-0.3	TP19	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20_0-0.1	TP20	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21_0-0.1	TP21	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21_0.2-0.3	TP21	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22_0-0.1	TP22	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	0.49	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	0.54 [#1]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23_0-0.1	TP23	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23_0.2-0.3	TP23	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24_0-0.1	TP24	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25_0-0.1	TP25	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26_0-0.1	TP26	0-0.1	10/10/2016	Soil	Fill	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	740	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#4]	1 [#3]
TP26_0.2-0.3	TP26	0.2-0.3	10/10/2016	Soil	Fill	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27_0-0.1	TP27	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27_0.2-0.3	TP27	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28_0-0.1	TP28	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	0.09	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	0.14 [#1]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29_0-0.1		0-0.1	10/10/2016	Soil	Natural	519296	<0.05	0.32	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	0.37 [#1]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	570	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#4]	1 [#3]
QC03	TP29 0-0.1	0-0.1	10/10/2016	Soil	Natural	519296	<0.05	0.42	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	0.47 [#1]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	693	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#4]	1 [#3]
QC03A		0-0.1	10/10/2016	Soil	Natural	155048	<0.1	0.2	<0.2 [#5]	<0.1	<0.1	<0.1	<0.1	0.3 [#1]	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
TP30_0-0.1	TP30	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31_0-0.1	TP31	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32_0-0.1	TP32	0-0.1	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32_0.2-0.3	TP32	0.2-0.3	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ACM01	ACM01	Surface	10/10/2016	Fragment	-	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	0	0	0	0	0	0	0	0	0	-	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#2]	1 [#3]
SS01	SS01	Surface	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_VEGE PATCH	SS02	Surface	10/10/2016	Soil	Natural	519296	<0.05	<0.05	<0.1 [#5]	<0.05	<0.05	<0.05	<0.05	<0.15 [#2]	<0.05	-	<0.1	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_DRAIN	SS03	Surface	10/10/2016	Soil	Natural	519296	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data Comments

#1 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#2 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#3 No respirable fibres detected
#4 Organic fibres detected.
#5 ESDAT Combined.
#6 NIL (+)VE
#7 Nil

Appendix A Bore Search Results

Department of Primary Industries
Office of Water

close this window

All Groundwater
find a site
All Groundwater Map

bandwidth (•) high ( ) low

glossary and metadata

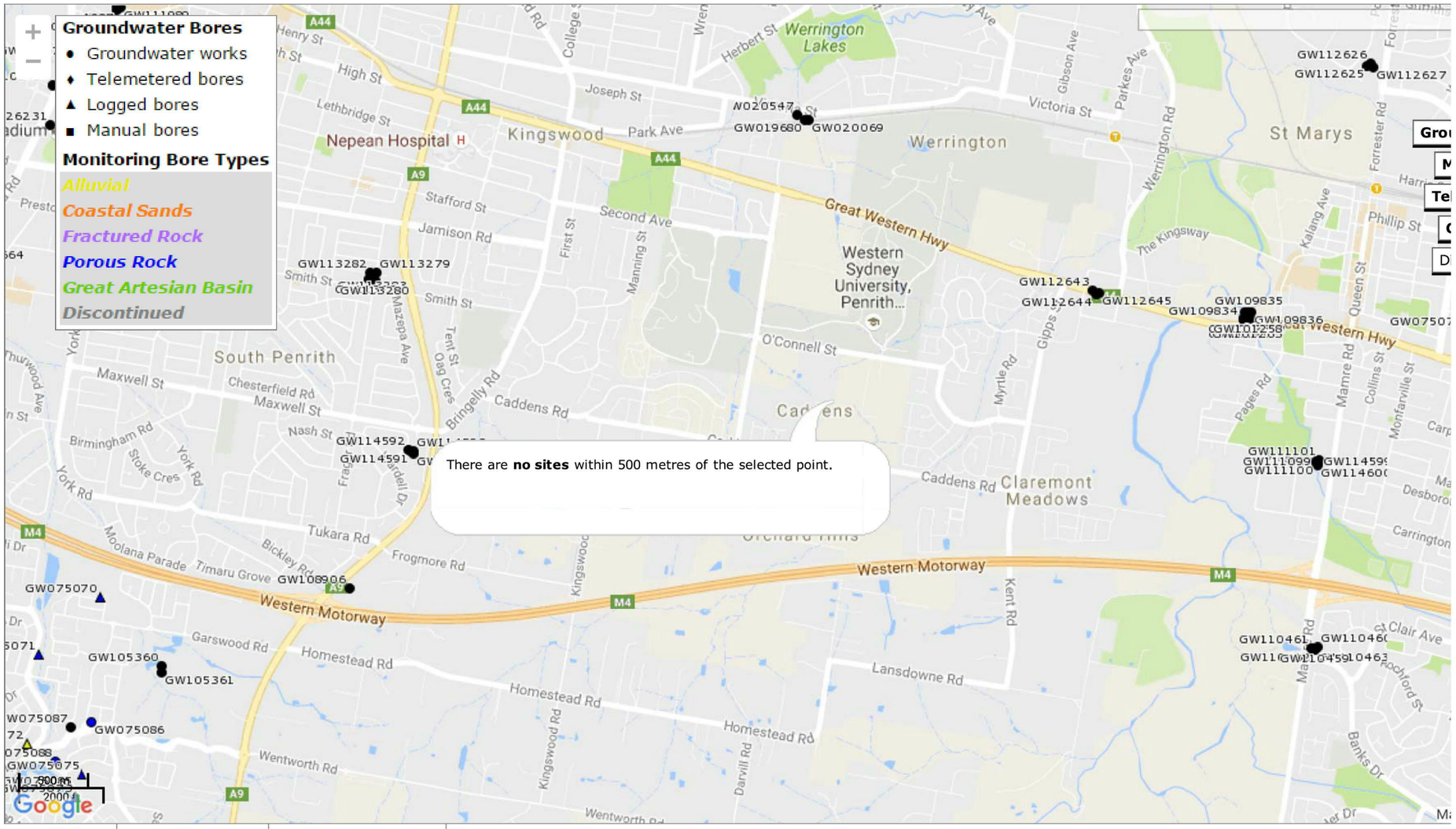
All Groundwater

bookmark this page

All Groundwater Map

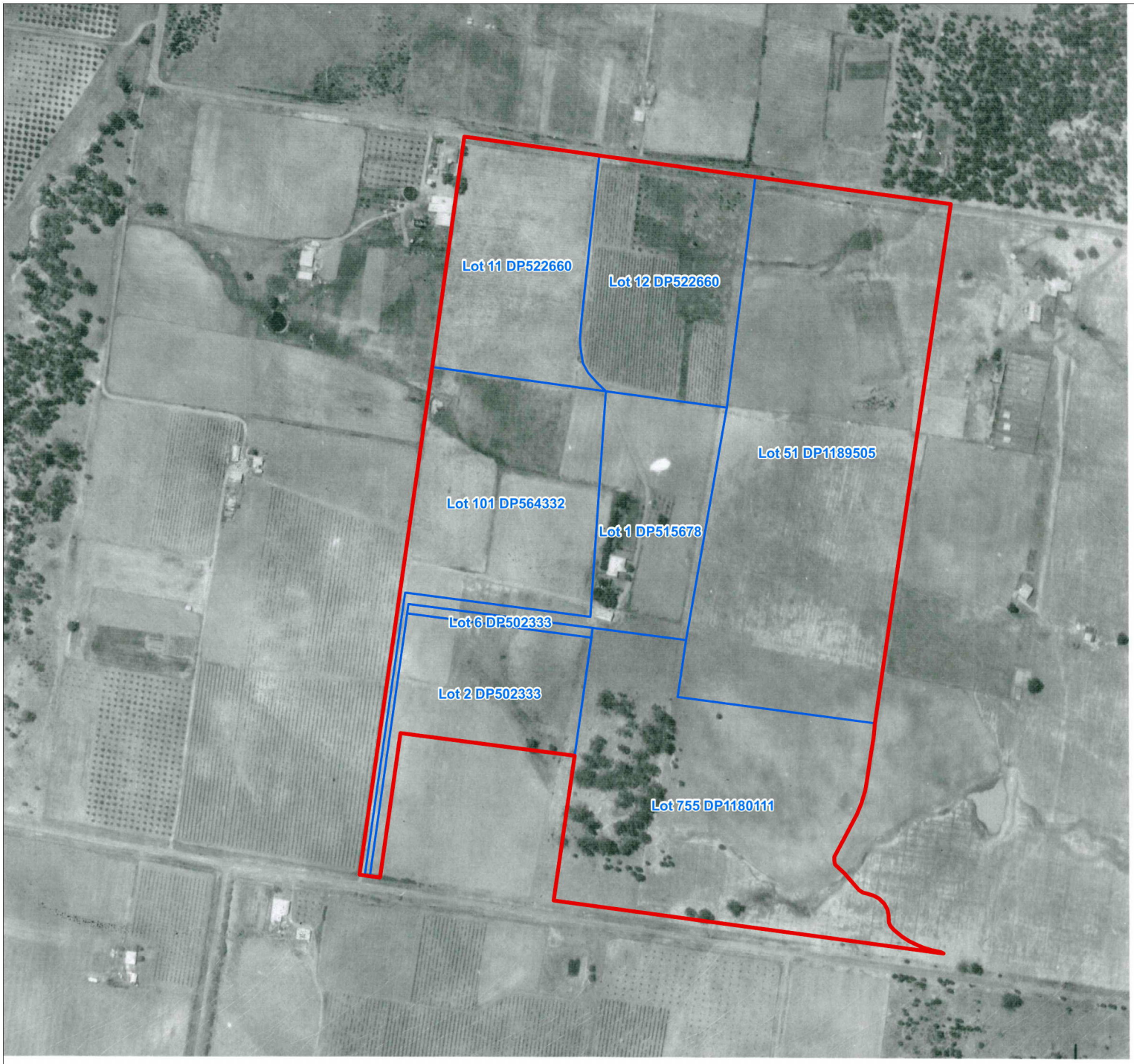
All data times are Eastern Standard Time

Map | Info



Scale = 1 : 27K | 150.728, -33.759 | 289574, 6262246, 56

Appendix B Aerial Photographs



Legend:

Approximate Site Boundary

Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

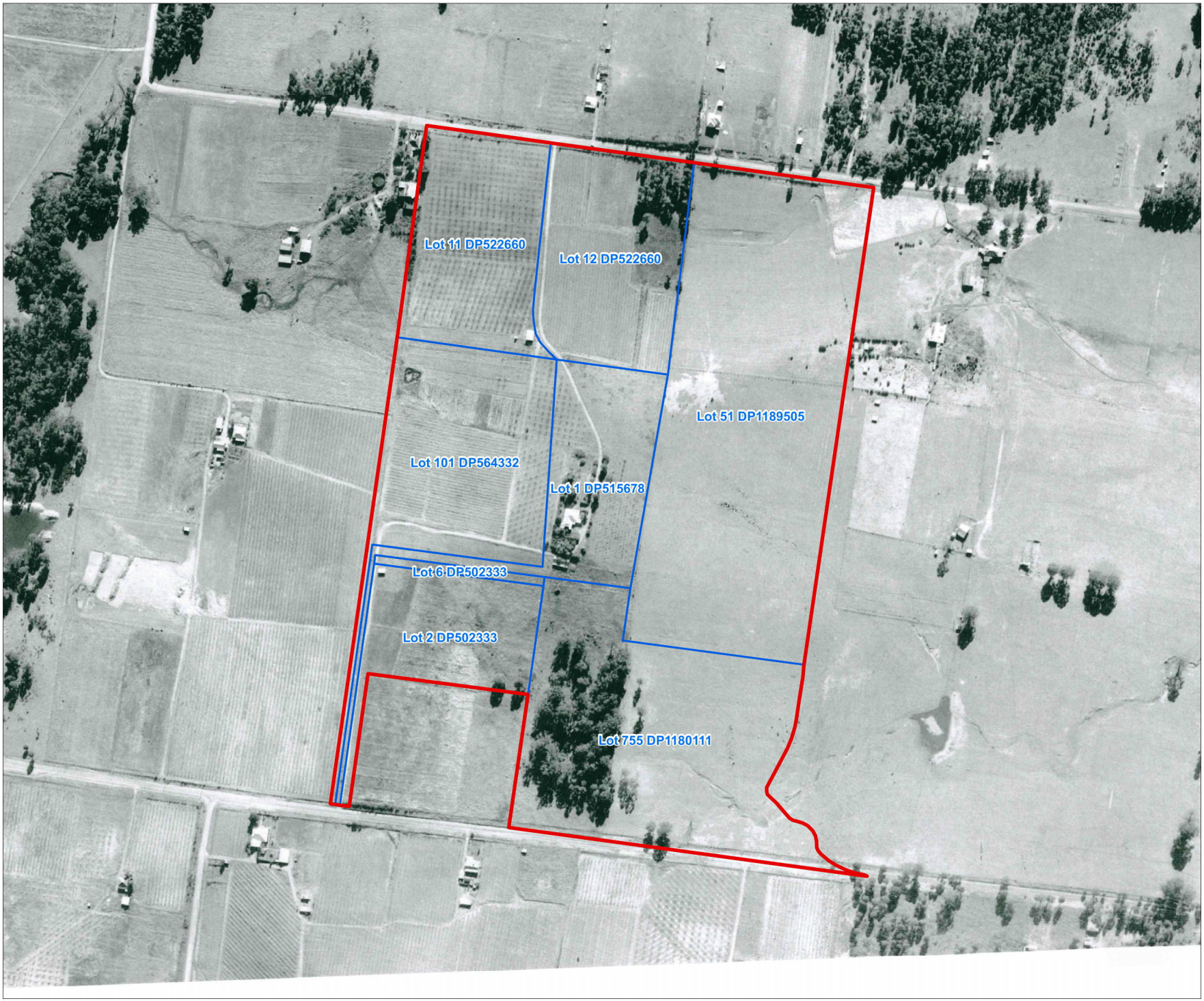
metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 1947

AERIAL PHOTOGRAPH 1947



Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

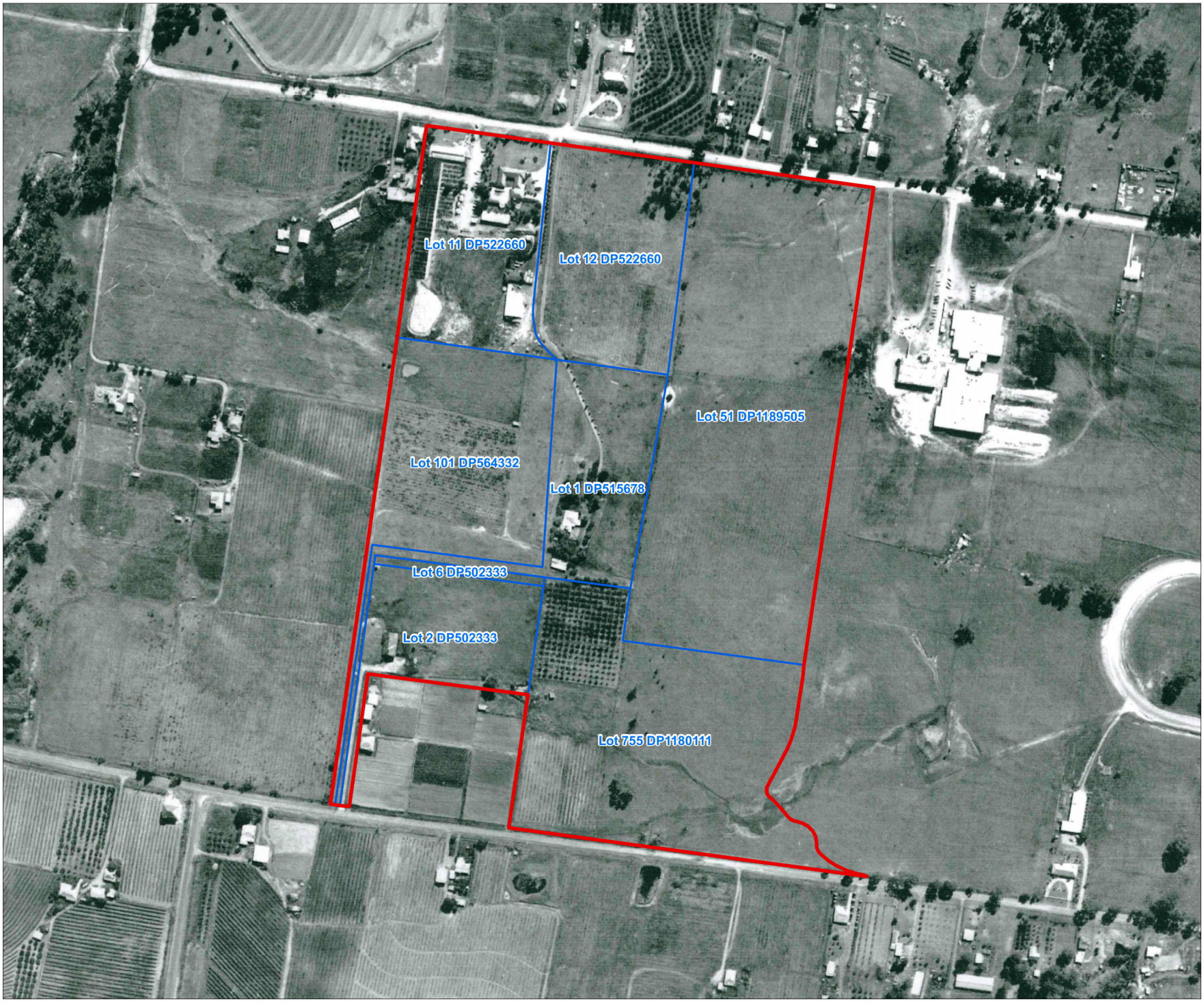
metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 1961

AERIAL PHOTOGRAPH 1961



Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

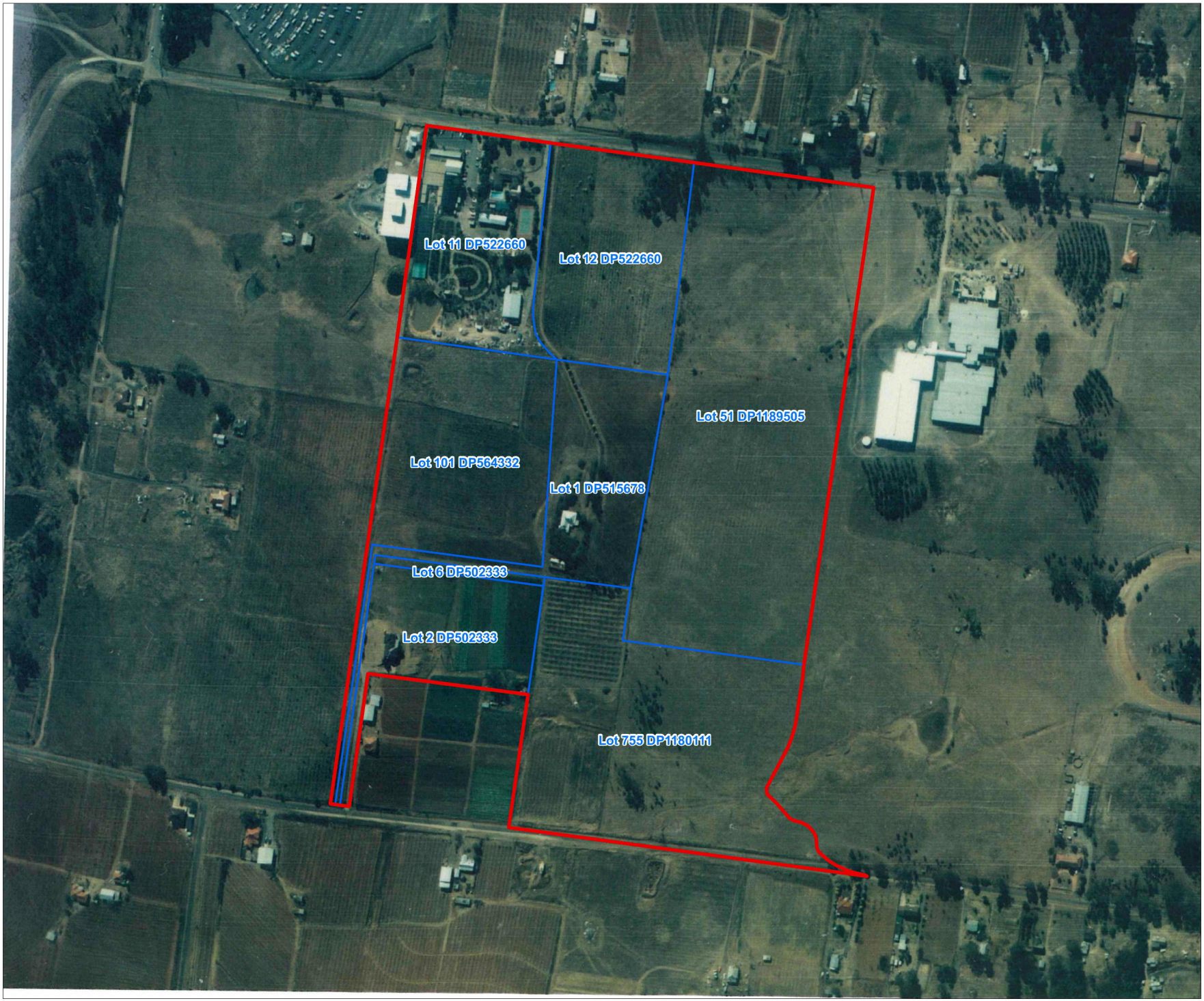
metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 1978

AERIAL PHOTOGRAPH 1978



Legend:

Approximate Site Boundary

Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 1986

AERIAL PHOTOGRAPH 1986

Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

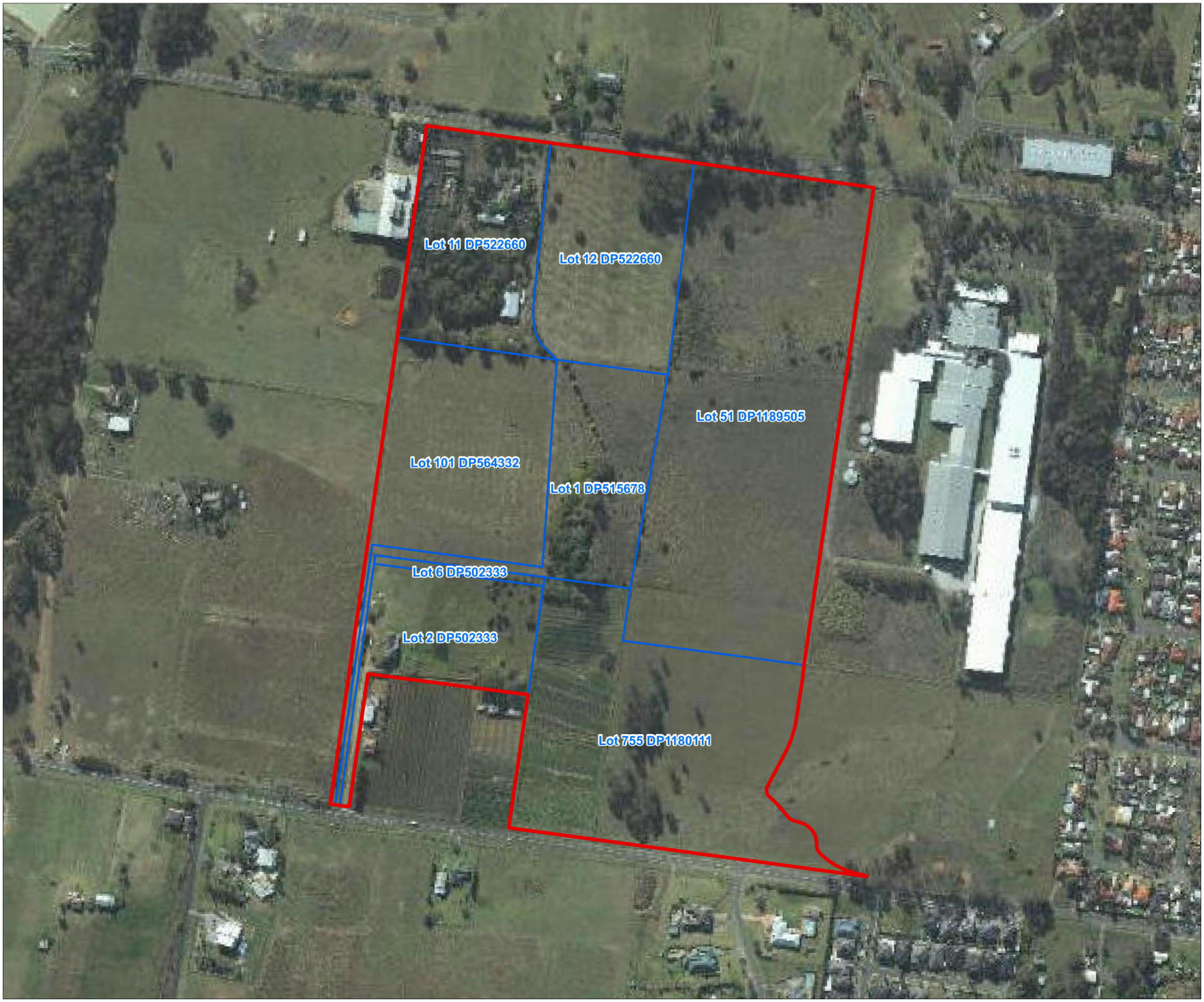
metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 1998

AERIAL PHOTOGRAPH 1998



Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 2011

AERIAL PHOTOGRAPH 2011

Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:5,000

0 60 120

metres

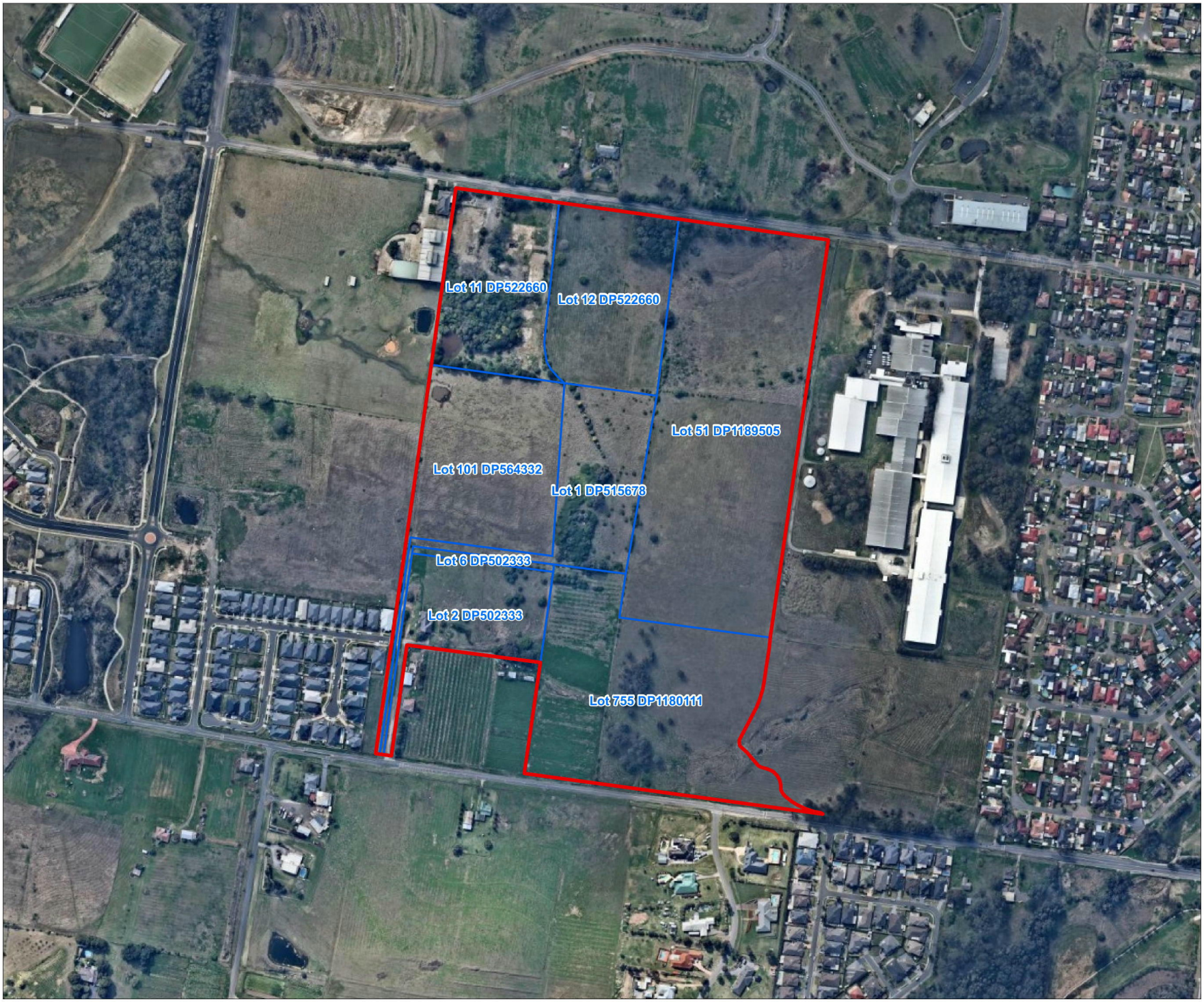
Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH 2014

AERIAL PHOTOGRAPH 2014

Reference: http://maps.au.nearmap.com/ Imagery 26/06/2014



Legend:

- Approximate Site Boundary
- Approximate Lot Boundary

JBS&G

Job No: 52116

Client: Legacy Property

Version: Aerials	Date: 21-Sep-2016
Drawn By: NB	Checked By: SG

Scale 1:6,000

0 70 140

metres

Coor. Sys. GDA 1994 MGA Zone 56

Caddens Road,
Caddens NSW

HISTORICAL AERIAL PHOTOGRAPH

AERIAL PHOTOGRAPH 2016

Image Source: Nearmap
Reference: http://maps.au.nearmap.com/ Imagery 09/09/2016

Appendix C EPA Records

Healthy Environment, Healthy Community, Healthy Business

Home Contaminated land Record of notices

Search results

Your search for:LGA: Penrith City Council

Matched 23 notices relating to 7 sites.

Search Again

Refine Search

Suburb	Address	Site Name	Notices related to this site
BERKSHIRE PARK	(Northern end of Compartment 5) The Northern ROAD	Castlereagh State Forest	6 former
COLYTON	88 Great Western HIGHWAY	Ampol Service Station	1 current
JAMISONTOWN	92 Mulgoa ROAD	7-Eleven Service Station	2 current
LUDDENHAM	Lot 4 The Northern ROAD	Elura Liquid Waste Disposal Site	1 current
MULGOA	Mulgoa ROAD	Penrith Waste Services	2 former
PENRITH	Castlereagh ROAD	Crane Enfield Metals	3 current and 3 former
ST MARYS	Vallance STREET	Drum Recycler	5 former

Page 1 of 1

20 September 2016

Healthy Environment, Healthy Community, Healthy Business

Search results

Your search for: **General Search** with the following criteria

Suburb - CADDENS

returned 0 result

Search Again

Healthy Environment, Healthy Community, Healthy Business

List of NSW contaminated sites notified to EPA

Background

A strategy to systematically assess, prioritise and respond to notifications under Section 60 of *the Contaminated Land Management Act 1997* (CLM Act) has been developed by the EPA. This strategy acknowledges the EPA's obligations to make information available to the public under *Government Information (Public Access) Act 2009*.

When a site is notified to the EPA, it may be accompanied by detailed site reports where the owner has been proactive in addressing the contamination and its source. However, often there is minimal information on the nature or extent of the contamination.

For some notifications, the information indicates the contamination is securely immobilised within the site, such as under a building or carpark, and is not currently causing any offsite consequences to the community or environment. Such sites would still need to be cleaned up, but this could be done in conjunction with any subsequent building or redevelopment of the land. These sites may not require intervention under the CLM Act, but could be dealt with through the planning and development consent process.

Where indications are that the nominated site is causing actual harm to the environment or an unacceptable offsite impact (i.e. it is a 'significantly contaminated site'), the EPA would apply the regulatory provisions of the CLM Act to have the responsible polluter and/or landowner investigate and remediate the site.

As such, the sites notified to the EPA and presented in the following table are at various stages of the assessment and/or remediation process. Understanding the nature of the underlying contamination, its implications and implementing a remediation program where required, can take a considerable period of time. The tables provide an indication, in relation to each nominated site, as to the management status of that particular site. Further detailed information may be available from the EPA or the responsible landowner.

The following questions and answers may assist those interested in this issue:

Frequently asked questions

What is the difference between the 'List of NSW contaminated sites notified to EPA' and the 'Contaminated Land: Record of Notices'?

A site will be on the Contaminated Land: Record of Notices only if the EPA has issued a regulatory notice in relation to the site under the *Contaminated Land Management Act 1997*.

The sites appearing on this 'List of NSW contaminated sites notified to the EPA' indicate that the notifiers consider that the sites are contaminated and warrant reporting to EPA. However, the contamination may or may not be significant enough to warrant regulation by the EPA. The EPA needs to review and, if necessary, obtain more information before it can make a determination as to whether the site warrants regulation.

Why does my site appear on the list?

Your site appears on the list for one or more of the following reasons:

- The site owner and/or the person partly or fully responsible for causing the contamination notified the EPA about the contamination under Section 60 of the *Contaminated Land Management Act 1997*. In other words, the site owner or the 'polluter' believes the site is contaminated.
- The EPA has been notified via other means and is satisfied that the site is or was contaminated.

Does the list contain all contaminated sites in NSW?

No. The list only contains contaminated sites that EPA is aware of, with regard to its regulatory role under the CLM Act. An absence of a site from the list does not necessarily imply the site is not contaminated.

The EPA relies upon responsible parties to notify contaminated sites.

How are notified contaminated sites managed by the EPA?

There are different ways that the EPA manages these notified contaminated sites. First, an initial assessment is carried out by the EPA. At the completion of the initial assessment, the EPA may take one or more than one of the following management approaches:

- The contamination warrants the EPA's direct regulatory intervention either under the *Contaminated Land Management Act 1997* or the *Protection of the Environment Operations Act 1997* (POEO Act), or both. Information about current or past regulatory action on this site can be found on the EPA website.
- The contamination with respect to the current use or approved use of the site, as defined under the *Contaminated Land Management Act 1997,* is not significant enough that it warrants EPA regulation.
- The contamination does not require EPA regulation and can be managed by a planning approval process.
- The contamination is related to an operational underground petroleum storage system, such as a service station or fuel depot. The contamination may be managed under the POEO Act and the Protection of the Environment Operation (Underground Petroleum Storage Systems) Regulation 2014.

Note: There are specific instances where contamination is managed under a specifically tailored program operated by another agency. For example the NSW Resouces & Energy's Derelict mines program and the NSW DPI Cattle tick dip site locator.

The Legacy contamination management procedures for these sites will be detailed in a Memorandum of Understanding between the NSW EPA, NSW Resources and Energy and Dept. Primary Industries (Crown Lands and Biosecurity) (Note: the MoU is currently in draft).

I am the owner of a site that appears on the list. What should I do?

First of all, you should ensure the current use of the site is compatible with the site contamination. Secondly, if the site is the subject of EPA regulation, make sure you comply with the regulatory requirements, and you have considered your obligations to notify other parties who may be affected.

If you have any concerns, contact us and we may be able to offer you general advice, or direct you to accredited professionals who can assist with specific issues.

I am a prospective buyer of a site that appears on the list. What should I do?

You should seek advice from the vendor to put the contamination issue into perspective. You may need to seek independent expert advice.

The information provided in the list, particularly the EPA site management class, is meant to be indicative only, and a starting point for your own assessment. Site contamination as a legacy of past site uses is not uncommon, particularly in an urban environment. If the contamination on a site is properly remediated or managed, it may not materially impact upon the intended future use of the site. However, each site needs to be considered in context.

List of NSW contaminated sites notified to the EPA

Disclaimer

The EPA has taken all reasonable care to ensure that the information in the list of contaminated sites notified to the EPA (the list) is complete and correct. The EPA does not, however, warrant or represent that the list is free from errors or omissions or that it is exhaustive.

The EPA may, without notice, change any or all of the information in the list at any time.

You should obtain independent advice before you make any decision based on the information in the list.

The list is made available on the understanding that the EPA, its servants and agents, to the extent permitted by law, accept no responsibility for any damage, cost, loss or expense incurred by you as a result of:

1. any information in the list
2. any error, omission or misrepresentation in the list
3. any malfunction or failure to function of the list
4. without limiting (2) or (3) above, any delay, failure or error in recording, displaying or updating information.

The following information, is also available in this printable document: List of NSW Contaminated Sites Notified to the EPA as of 30 August 2016 (PDF 889KB).

EPA site management class	Explanation
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or *Protection of the Environment Operations Act 1997*. Alternatively, the EPA may require information via a notice issued under s77 of the *Contaminated Land Management Act 1997* or issue a Preliminary Investigation Order.
Regulation under CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the *Contaminated Land Management Act 1997* is not required.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the *Contaminated Land Management Act 1997*. A regulatory approach is being finalised.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the *Contaminated Land Management Act 1997* (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the *Protection of the Environment Operations Act 1997* (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the *Environmental Planning and Assessment Act 1979* (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the *Contaminated Land Management Act 1997* (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the *Protection of the Environment Operations Act 1997 (POEO Act).*
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the *Environmental Planning and Assessment Act 1979* (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the *Contaminated Land Management Act 1997* (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record.

List current as of 30 August 2016.

			EPA site

	7 Molloy STREET		currently regulated under CLM Act
BULLI	Bulli Brickworks Quilkey PLACE	Other Industry	Regulation under CLM Act not required
BUNGENDORE	Former Timber Treatment Plant Corner King Street and Butmaroo STREET	Other Industry	Contamination formerly regulated under the CLM Act
BURONGA	Caltex Service Station Sturt Hwy Cnr Silver City HIGHWAY	Service Station	Under assessment
BURWOOD	Burwood STA Depot Cnr Shaftesbury and Parramatta ROADS	Other Industry	Contamination formerly regulated under the CLM Act
BYRON BAY	Residential Development Lot 15 Seaview STREET	Unclassified	Regulation under CLM Act not required
CABARITA	Cabarita Wellcome 33 Phillips STREET	Landfill	Ongoing maintenance required to manage residual contamination (CLM Act)
CABARITA	Dulux (Orica Australia) Cabarita ROAD	Chemical Industry	Contamination formerly regulated under the CLM Act
CABRAMATTA	Caltex Service Station 166 John STREET	Service Station	Under assessment
CALGA	Former service station 101 Peats Ridge ROAD	Service Station	Contamination formerly regulated under the CLM Act
CALLALA BEACH	Callala Beach General Store (formerly 1 Quay Rd) 114A Quay ROAD	Service Station	Regulation under CLM Act not required
CAMBRIDGE PARK	Caltex Cambridge Park Star COURT	Service Station	Under assessment
CAMDEN	Caltex Service Station 21 Barsden STREET	Service Station	Under assessment
CAMDEN	Camden High School (former) John STREET	Gasworks	Regulation under CLM Act not required
CAMDEN SOUTH	Coles Express Service Station Camden 273 Old Hume HIGHWAY	Service Station	Under assessment
CAMELLIA	James Hardie Factory (former, eastern portion) 1 Grand AVENUE	Other Industry	Contamination currently regulated under CLM Act
CAMELLIA	Council Reserve 11B Grand AVENUE	Metal Industry	Regulation under CLM Act not required
CAMELLIA	Bitumen Manufacturer 12 Grand AVENUE	Other Industry	Contamination currently regulated under CLM Act
CAMELLIA	Wrigg 13 Grand AVENUE	Metal Industry	Under assessment
CAMELLIA	Hymix Concrete 14 Grand AVENUE	Metal Industry	Contamination currently regulated under CLM Act
CAMELLIA	Hambear 14 Thackeray STREET	Metal Industry	Regulation under CLM Act not required
CAMELLIA	Mauri Foods 15 Grand AVENUE	Other Industry	Regulation being finalised
CAMELLIA	Railway Land 27 Grand AVENUE	Other Industry	Regulation under CLM Act not required
CAMELLIA	Maritime Services Board	Metal Industry	Regulation under

Appendix D Australian and NSW Heritage Information

Office of Environment & Heritage

Home > Topics > Heritage places and items > Search for heritage

Search for NSW heritage

Return to search page where you can refine/broaden your search.

Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search did not return any matching results.

Section 2. Items listed under the NSW Heritage Act.

Your search returned 28 records.

Item name	Address	Suburb	LGA	SHR
Ahrens Fox PS2 Fire Engine (1929)	1 Museum Drive	Penrith	Penrith	01717
Cox's Cottage	2 St Thomas Road	Mulgoa	Penrith	00171
Craithes House	34-40 Borec Road	Penrith	Penrith	00378
Dennis Big 6 Fire Engine (1939)	1 Museum Drive	Penrith	Penrith	01718
Edward Smith Headquarters Switchboard (1909)	1 Museum Drive	Penrith	Penrith	01901
Emu Plains (Nepean River) Underbridge	Off Bruce Neale Dr, Steel Trusses 1.3 Km Past Station	Penrith	Penrith	01830
Emu Plains Railway Station group	Main Western railway	Emu Plains	Penrith	01136
Fairlight Homestead & Barn	Fairlight Road	Mulgoa	Penrith	00262
Fernhill	Mulgoa Road	Mulgoa	Penr	00054

			ith	
Fire and Rescue NSW Heritage Fleet	Museum Drive	Penrith	Penrith	01902
Ford 21W Fire Brigade Mobile Canteen (1942)	Museum Drive	Penrith	Penrith	01900
Fossil Collection	947-953 Londonderry Road	Londonderry	Penrith	00971
Glenleigh Estate	427 Mulgoa Road	Regentville	Penrith	00346
Glenmore	754-760 Mulgoa Road	Mulgoa	Penrith	00074
Mamre	Mamre Road	St. Marys	Penrith	00264
Natural Area	Rickards Avenue	Agnes Banks	Penrith	00649
NSW Fire Brigades No 10 Vehicle Number Plates	Castlereagh Road	Penrith	Penrith	01519
Penrith Railway Station group	Great Western Railway	Penrith	Penrith	01222
Petrology Collection	947-953 Londonderry Road	Londonderry	Penrith	00973
Rose Cottage and Early Slab Hut	Water Street	Werrington	Penrith	01392
Shand Mason 7 inch Manual Fire Engine (1869)	1 Museum Drive	Penrith	Penrith	01898
Shand Mason Curricle Ladders (1898)	1 Museum Drive	Penrith	Penrith	01899
Shand Mason Fire Engine (1891)	Museum Drive	Penrith	Penrith	01716
St. Marys Railway Station Group	Great Western Railway	St. Marys	Penrith	01249
St. Thomas Anglican Church	St Thomas Road	Mulgoa	Penrith	00426
Torin Building	26 Coombes Drive	Penrith	Penrith	01796
Upper Castlereagh Public School and residence	Castlereagh Road	Castlereagh	Penrith	00339
Victoria Bridge	Nepean River, Great Western Highway	Penrith	Penrith	01950

Section 3. Items listed by Local Government and State Agencies.

Your search returned 245 records.

Item name	Address	Suburb	LGA	Information source
1841 Tilley 5 inch Manual Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1869 Shand Mason 7" Manual Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1891 Shand Mason Steamer Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1898 Shand Mason Curricle Ladders - Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1916 Garford Type 64 Chain Drive Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1929 Ahrens Fox PS2 Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1939 Dennis Big 6 Fire Engine	1 Museum Drive	Penrith	Penrith	SGOV
1942 Ford 21W Fire Brigade Mobile Canteen	1 Museum Drive	Penrith	Penrith	SGOV
1949 Dennis F1 Fire Engine (Scout Car)	1 Museum Drive	Penrith	Penrith	SGOV
Agnes Banks Public School (Former)	Castlereagh Road	Agnes Banks	Penrith	LGOV
Arms of Australia Inn	Great Western Highway	Emu Plains	Penrith	LGOV
Australian Arms Inn (Former)	Great Western Highway	Emu Plains	Penrith	LGOV
Avenue and Garden Planting	Lemko Place	Penrith	Penrith	LGOV
Barn to Tannery site (Former)	Pages Road	St. Marys	Penrith	LGOV
Bayley Park House	Mamre Road	Kemps Creek	Penrith	LGOV
Bellbird Reserve	Barina Crescent	Emu Plains	Penrith	LGOV
Bennetts Wagon Works Site (Former)	Queen Street	St. Marys	Penrith	LGOV
Brells Tannery (Former)	Great Western Highway	St. Marys	Penrith	LGOV
Brick Cottage	Park Road	Luddenham	Penrith	LGOV
Brick Cottage	Campbell Street	Luddenham	Penrith	LGOV

Broadville Victorian House	98 Station Street	Penrith	Penrith	LGOV
Bronte Villa	50 Gidley Street	St. Marys	Penrith	LGOV
Building AA - Werrington Park House and Poplar Avenue	Great Western Highway	Werrington	Penrith	SGOV
Castlereagh Council Chambers (Former)	Castlereagh Road	Castlereagh	Penrith	LGOV
Castlereagh General Cemetery	Church Lane	Castlereagh	Penrith	LGOV
Castlereagh Public School (Former)	West Wilchard Road	Castlereagh	Penrith	LGOV
Chestnut Cottage	R17 Castlereagh Road	Agnes Banks	Penrith	LGOV
Christchurch Anglican Church	Church Lane	Castlereagh	Penrith	LGOV
Combewood House, garden and original entrance	Coreen Avenue	Penrith	Penrith	LGOV
Combewood Trees	Coreen Avenue	Penrith	Penrith	LGOV
Commissioner's Uniform (NSWFire Brigades) - Ian Mac Dougall	1 Museum Drive	Penrith	Penrith	SGOV
Community Arts Centre	Great Western Highway	Emu Plains	Penrith	LGOV
Concrete House	2 Railway Street	Emu Plains	Penrith	LGOV
Cottage	14 York Street	Emu Plains	Penrith	LGOV
Cottage	Eastern end Seventh Avenue	Llandilo	Penrith	LGOV
Cottage	Seventh Avenue (Eastern end)	Llandilo	Penrith	SGOV
Cottage	Littlefields Road	Mulgoa	Penrith	LGOV
Cottage	Lenore Lane	St. Marys	Penrith	LGOV
Cottage, The	St Thomas Road	Mulgoa	Penrith	LGOV
Cottages	38-42 Gidley Street	St. Marys	Penrith	LGOV
Cottages	Great Western Highway	St. Marys	Penrith	LGOV

Craithes House	Borec Road	Penrith	Penrith	LGOV
Cram Place - Cast Iron Fence	338-340 High Street	Penrith	Penrith	LGOV
Cram Place - Well and Pump	338-340 High Street	Penrith	Penrith	LGOV
Cram Place (Former CBC Bank)	338-340 High Street	Penrith	Penrith	LGOV
Cram Place (Former Coach House)	338-340 High Street	Penrith	Penrith	LGOV
Cranebrook Public School (Former)	Cranebrook Road	Cranebrook	Penrith	LGOV
Crushing Plant	Jacksons Lane	Upper Castlereagh	Penrith	LGOV
Derby Street P33b Conservation Area Cottages	Castlereagh Street	Penrith	Penrith	LGOV
Derby Street P33c Conservation Area Cottages	Derby Street	Penrith	Penrith	LGOV
Desboroughs Tannery (Former)	Desborough Road	St. Marys	Penrith	LGOV
Dunheved Fire Station	50 Christie Street	Penrith	Penrith	SGOV
Dunheved Homestead Site		Dunheved	Penrith	LGOV
Edinglassie House	22-24 Bunyan Road	Leonay	Penrith	LGOV
Edward Smith Headquarters Switchboard - 1909	1 Museum Drive	Penrith	Penrith	SGOV
Edwardian Cottage	323 Castlereagh Road	Penrith	Penrith	LGOV
Edwardian Cottage	46 Russell Street	Emu Plains	Penrith	LGOV
Emu Hall Homestead	Great Western Highway	Emu Plains	Penrith	LGOV
Emu Plains (Nepean River) Underbridge	Off Bruce Neale Dr, Steel Trusses 1.3 Km Past Station	Penrith	Penrith	SGOV
Emu Plains Assembly Hall	17 Great Western Highway	Emu Plains	Penrith	LGOV
Emu Plains Railway Culvert	Lamrock Street	Emu Plains	Penrith	SGOV
Emu Plains Railway Station	Station Street/Railway Row	Emu Plains	Penrith	LGOV

Emu Plains Railway Station Group	Mackellar Street	Emu Plains	Penrith	SGOV
Explorers Memorial	Memorial Avenue	Penrith	Penrith	LGOV
Farmhouse	Caddens Road	Orchard Hills	Penrith	LGOV
Farmhouse	Aldington Road	Kemps Creek	Penrith	LGOV
Farmhouse (Collapsed) & outbuildings	Springwood Road	Agnes Banks	Penrith	LGOV
Federation Farmhouse	R37 Castlereagh Road	Castlereagh	Penrith	LGOV
Federation House & Garden	6 First Street South	Kingswood	Penrith	LGOV
Ferry Crossing	Ferry Road	Emu Plains	Penrith	LGOV
Four Winds	Great Western Highway	Werrington	Penrith	SGOV
Four Winds Bungalow	Great Western Highway	Werrington	Penrith	LGOV
Gateposts to Colesbrook	Aldington Road	Kemps Creek	Penrith	LGOV
Gosling Street & Hessel Place Reserves	Gosling Street	Emu Plains	Penrith	LGOV
Governor Phillip Special Hospital Original Building	Glebe Place	Penrith	Penrith	LGOV
Gwandalan Cottage	Nepean Street	Emu Plains	Penrith	LGOV
Hadley Park	RMB 113 Castlereagh Road	Castlereagh	Penrith	GAZ
House	1 Bundarra Road	Regentville	Penrith	LGOV
House Hall family	13 Hessel Place	Emu Plains	Penrith	LGOV
House to Tannery (Former) site	Pages Road	St. Marys	Penrith	LGOV
Huntington Hall Country House	52 Beach Street	Emu Plains	Penrith	LGOV
Johnson's Cottage	Nepean Street	Cranebrook	Penrith	LGOV
Kenilworth House	Boundary Road	Cranebrook	Penrith	LGOV

Kentucky	146 Station Street	Penrith	Penrith	LGOV
Kingswood Public School Classroom and Teachers Residence	Second Avenue	Kingswood	Penrith	LGOV
Knapsack Gully Railway Viaduct		Emu Plains	Penrith	LGOV
Lawson Footbridge	East of Station At 94.93 Km, Old Overbridge	Lawson	Penrith	SGOV
Leeholme Horse Stud-Exercise Yard	Luddenham Road	St. Clair	Penrith	LGOV
Lemongrove Conservation Area Cottages	18-29 The Crescent	Lemongrove	Penrith	LGOV
Lemongrove Conservation Area Cottages	18 Blaxland Avenue	Lemongrove	Penrith	LGOV
Lemongrove Conservation Area Cottages	15-53 Lemongrove Road	Lemongrove	Penrith	LGOV
Lemongrove Conservation Area Cottages	1-16 Macquarie Avenue	Lemongrove	Penrith	LGOV
Lemongrove Conservation Area Cottages	4 - 22 Hemmings Street	Lemongrove	Penrith	LGOV
Lemongrove Lodge	24 Lemongrove Avenue	Lemongrove	Penrith	LGOV
Leo Buring Cottage, barn, glasshouse and memorial	Leonay Parade	Leonay	Penrith	LGOV
Lewers Houses & Garden	86 River Road	Emu Plains	Penrith	LGOV
Little Manly	Western side Nepean River	Emu Plains	Penrith	LGOV
Londonderry Cemetery	Londonderry Road	Londonderry	Penrith	LGOV
Luddenham Progress Hall	The Northern Road	Luddenham	Penrith	LGOV
Luddenham Uniting Church	The Northern Road	Luddenham	Penrith	LGOV
Luddenham Uniting Church Cemetery	The Northern Road	Luddenham	Penrith	LGOV
Madang Park Farmhouse	Jamison Road	Jamisontown	Penrith	LGOV
Mamre	Mamre Road	St. Marys	Penrith	SGOV
Mamre House	Mamre Road	St. Marys	Penrith	LGOV

Mansion (Site)	Mulgoa Road	Regentville	Penrith	LGOV
Margaret Farm & Barn	Pages Road	St. Marys	Penrith	SGOV
McCarthys Cemetery	McCarthys Lane	Castlereagh	Penrith	GAZ
McCarthys Farm Archaeological remains (Demolished)	McCarthys Lane	Cranebrook	Penrith	LGOV
Memorial Cairn	Mamre Road	St. Marys	Penrith	LGOV
Memorial Cairn	Luddenham Road	St. Marys	Penrith	LGOV
Memorial Park	Woodriff Street	Penrith	Penrith	LGOV
Memorials	Castlereagh Road	Castlereagh	Penrith	LGOV
Methodist Cemetery		Castlereagh	Penrith	GAZ
Methodist Church (Former)	Henry Street	Penrith	Penrith	LGOV
Mile Stones	Great Western Highway	Oxley Park	Penrith	LGOV
Mimosa Stables (Former)	Pages Road	St. Marys	Penrith	LGOV
Mimosa Villa	Pages Road	St. Marys	Penrith	LGOV
Moore Cottage	8 Sainsbury Street	St. Marys	Penrith	LGOV
Mourilyan House (original section)	333 Great Western Highway	St. Marys	Penrith	LGOV
Mulgoa Conservation Area		Regentville	Penrith	LGOV
Mulgoa Public School	Mulgoa Road	Mulgoa	Penrith	LGOV
Museum of Fire Penrith (Former Penrith Power Station)	Castlereagh Road	Penrith	Penrith	LGOV
Nepean Park	Castlereagh Road	Castlereagh	Penrith	GAZ
Nepean River		Penrith	Penrith	LGOV
NSW Fire Brigades Heritage Fleet	1 Museum Drive	Penrith	Penrith	SGOV

NSWFB 'No. 10' Vehicle Number Plates	1 Museum Drive	Penrith	Penrith	SGOV
Old Police Station	Great Western Highway	Emu Plains	Penrith	SGOV
Orange Grove Cottage	Park Avenue	Emu Plains	Penrith	LGOV
Orchard Hills Reservoir (WS 0083)	Castle Road	Orchard Hills	Penrith	SGOV
Orchard Hills Uniting Church	Kingswood Road	Orchard Hills	Penrith	LGOV
Original building	Glebe Place	Penrith	Penrith	SGOV
Osborne Homestead	Castlereagh Road	Agnes Banks	Penrith	LGOV
Pages Tannery (Former)	Pages Road	St. Marys	Penrith	LGOV
Parkers Slaughter Yard	Castlereagh Road	Castlereagh	Penrith	LGOV
Parkinson Real Estate Cottage	NE corner Great Western Highway	Emu Plains	Penrith	LGOV
Passadena House	Allan Road	Mulgoa	Penrith	LGOV
Peach Tree Creek Bridge	Great Western Highway	Penrith	Penrith	SGOV
Penrith Ambulance Station	High Street	Penrith	Penrith	LGOV
Penrith Brick Company (Former) (Demolished)	Copeland Street	Kingswood	Penrith	LGOV
Penrith Council Chambers	Henry Street	Penrith	Penrith	LGOV
Penrith General Cemetery	Copeland Street	Kingswood	Penrith	LGOV
Penrith Infants Department	Henry Street	Penrith	Penrith	LGOV
Penrith Public School Building	High Street	Penrith	Penrith	LGOV
Penrith Public School Palm Trees	High Street	Penrith	Penrith	LGOV
Penrith Railway Station	Jane Street	Penrith	Penrith	LGOV
Penrith Railway Station Group and Residence	Station Street	Penrith	Penrith	SGOV

Penrith Weir	Nepean River	Penrith	Penrith	SGOV
Pise House Ruins	Church Lane	Castlereagh	Penrith	LGOV
Plantings Farmhouse Garden	Church Lane	Castlereagh	Penrith	LGOV
Police Station & Residence (Former)	1 Punt Road	Emu Plains	Penrith	LGOV
Police Station Old (Destroyed)	Great Western Highway	Emu Plains	Penrith	LGOV
Poplars Garden (The)	Farrells Lane	Cranebrook	Penrith	LGOV
Poplars Old slab cottage (The)	Farrells Lane	Cranebrook	Penrith	LGOV
Poplars Pise House (The)	Farrells Lane	Cranebrook	Penrith	LGOV
Princess Mary Street Cottages	Princess Mary Street	St. Marys	Penrith	LGOV
Rectory (Former)	95 Glebe Place	Penrith	Penrith	LGOV
Regentville		Mulgoa Valley	Penrith	GAZ
Regentville Public School and Gardens	School House Road	Regentville	Penrith	LGOV
Rose Cottage & Barn	Water Street	Werrington	Penrith	LGOV
Rose Cottage and Early Slab Hut	Water Street	Werrington	Penrith	SGOV
Rotunda	Luddenham Road	St. Clair	Penrith	SGOV
Rowing Course		Emu Plains	Penrith	LGOV
Sawmill Precinct	Station Street	St. Marys	Penrith	LGOV
Sir John Jamisons Cemetery	Lilac Place	Regentville	Penrith	LGOV
Site of Edinglassie House	Lapstone Place	Leonay	Penrith	LGOV
Site of Fultons Church School	Church Street	Castlereagh	Penrith	LGOV
Sites of Early Water Mills		Castlereagh	Penrith	LGOV

Slab Cottage	Castlereagh Road	Castlereagh	Penrith	LGOV
South Creek Bridge (Eastbound)	Great Western Highway	St Marys	Penrith	SGOV
St Andrews Church of England (Former)	Park Road	Wallacia	Penrith	LGOV
St Aubin's Terrace	255-265 High Street	Penrith	Penrith	LGOV
St Marys Railway Station Group	Queen Street	St Marys	Penrith	SGOV
St. James Church of England	The Northern Road	Luddenham	Penrith	LGOV
St. James Church of England Cemetery	The Northern Road	Luddenham	Penrith	LGOV
St. Mary Magdalene Cemetery	Magdalene Street	St. Marys	Penrith	LGOV
St. Mary Magdalene Church	Magdalene Street	St. Marys	Penrith	LGOV
St. Marys Catholic Church	Mulgoa Road	Mulgoa	Penrith	LGOV
St. Marys Council Chambers (Former)	Mamre Road	St. Marys	Penrith	LGOV
St. Marys General Cemetery	Sydney Street	Oxley Park	Penrith	LGOV
St. Marys Public School & Buildings	Princess Mary Street	St. Marys	Penrith	LGOV
St. Marys Railway Station	Station street	St. Marys	Penrith	LGOV
St. Marys Railway Station Parcels Office	Station Street	St. Marys	Penrith	LGOV
St. Marys Railway Station Waiting Room	Station Street	St. Marys	Penrith	LGOV
St. Pauls Anglican Cemetery	Nixon Street	Emu Plains	Penrith	LGOV
St. Pauls Anglican Church	Nixon Street	Emu Plains	Penrith	LGOV
St. Pauls Church Of England (Relocated)	Castlereagh Road	Agnes Banks	Penrith	LGOV
St. Phillips Anglican Church	Bringelly Road	Kingswood	Penrith	LGOV
St. Stehens Cemetery	252 High Street	Penrith	Penrith	LGOV

St. Stephens Church Hall	252 High Street	Penrith	Penrith	LGOV
St. Stephens Church of England	252 High Street	Penrith	Penrith	LGOV
Staff Cottages	Forrester,Viney,Griffiths,Maple	St. Marys	Penrith	LGOV
State Records Movable Heritage - Furniture	143 O'Connell Street	Kingswood	Penrith	SGOV
State Records Movable Heritage - Memorials	143 O'Connell Street	Kingswood	Penrith	SGOV
Station Masters House (Former)	57 Belmore Street	Penrith	Penrith	LGOV
Stone House	143 Great Western Highway	Emu Plains	Penrith	LGOV
Stone Stables Ruins	Castlereagh Road	Castlereagh	Penrith	LGOV
Swampland	Werrington Road	Werrington	Penrith	LGOV
Tannery Site (Former)	Pages Road	St. Marys	Penrith	LGOV
Tannery Sites St. Marys & Kingswood (Former)		St. Marys	Penrith	LGOV
Tannery Werrington Brells (Former)	Great Western Highway	Werrington	Penrith	LGOV
The Cottage	39 Warwick Street	Penrith	Penrith	LGOV
The Lodge	54 Camden Road	Penrith	Penrith	LGOV
Thompsons Tannery (Former)	Saddington Street	St. Marys	Penrith	LGOV
Thornton Hall	Mountain View Crescent	Penrith	Penrith	LGOV
Timber Cottage	71 Parker Street	Penrith	Penrith	LGOV
Timber Cottages	29 and 41 The Northern Road	Luddenham	Penrith	LGOV
Torquay	555 Great Western Highway	Werrington	Penrith	SGOV
Torquay Cottage	Great Western Highway	Werrington	Penrith	LGOV
Tree - The Cottage	39 Warwick Street	Penrith	Penrith	LGOV

Tree to Victorian House	48 Warwick Street	Penrith	Penrith	LGOV
Trees to St Pauls Anglican Church	Castlereagh Road	Agnes Banks	Penrith	LGOV
Two Storey Brick Cottage (Destroyed)	7 Lawson Street	Penrith	Penrith	LGOV
Tyreel Homestead	Castlereagh Road	Agnes Banks	Penrith	LGOV
Union Inn (Former)	36 Great Western Highway	Emu Plains	Penrith	LGOV
Uniting Church	Emerald Street	Emu Plains	Penrith	LGOV
Upper Castlereagh Methodist Church and Hall		Castlereagh	Penrith	GAZ
Upper Castlereagh School and Residence		Castlereagh	Penrith	GAZ
Upper Castlereagh War Memorial	Castlereagh Road	Upper Castlereagh	Penrith	LGOV
Victoria Bridge	Great Western Highway	Penrith	Penrith	GAZ
Victoria Bridge	Great Western Highway	Penrith	Penrith	LGOV
Victoria Bridge over Nepean River	Great Western Highway	Penrith	Penrith	SGOV
Victoria Park	Great Western Highway	St. Marys	Penrith	LGOV
Victoria Park War Memorial	Great Western Highway	St. Marys	Penrith	LGOV
Victorian Farmhouse	Grays Lane	Cranebrook	Penrith	LGOV
Victorian Farmhouse	R97 Castlereagh Road	Castlereagh	Penrith	LGOV
Victorian House	322 Castlereagh Road	Penrith	Penrith	LGOV
Victorian House	48 Warwick Street	Penrith	Penrith	LGOV
Victorian House	6 Rawson Avenue	Penrith	Penrith	LGOV
Victorian House	148 Station Street	Penrith	Penrith	LGOV
Victorian Terrace	219-221 High Street	Penrith	Penrith	LGOV

Victorian Villa	150 Lethbridge Street	Penrith	Penrith	LGOV
Wagon Wheel Hotel	Great Western Highway	St. Marys	Penrith	LGOV
Wallacia Hotel	Mulgoa Road	Wallacia	Penrith	LGOV
Wallacia Weir		Wallacia	Penrith	GAZ
War Memorial	Park Street	Emu Plains	Penrith	LGOV
Weatherboard House	66 Great Western Highway	Emu Plains	Penrith	LGOV
Webbs Tannery (Former)	Carinya Avenue	St. Marys	Penrith	LGOV
Weir and Former Pumping Station	Memorial Avenue	Penrith	Penrith	LGOV
Werrington House	108 Rugby Street	Werrington	Penrith	LGOV
Werrington Park House (Former), garden & Poplar Avenue	Great Western Highway	Werrington	Penrith	LGOV
Westbank House	2-6 Nepean Street	Emu Plains	Penrith	LGOV
Wool Pack Inn (Ruin)	556 Great Western Highway	St. Marys	Penrith	SGOV
Workers Cottages for Brickwork's	Mulgoa Road	Jamisontown	Penrith	LGOV
Yamba Cottage	32 Nixon Street	Emu Plains	Penrith	LGOV
Yodalla House	26-28 Nepean Street	Emu Plains	Penrith	LGOV

There was a total of 273 records matching your search criteria.

Key:
LGA = Local Government Area
GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.
Note: While the Heritage Division seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

Appendix E Data Quality Objectives

E.1 Sampling and Analysis Quality Plan

Data Quality Objectives (DQOs) were established for the assessment works, as described in the following sections.

E.1.1 State the Problem

It is understood that the Site owner, Legacy Property, requires an assessment of the potential risks to human health and the environment associated with site contamination under the current land use specified for the site, as discussed in **Section 1**. As part of this assessment, a data gap investigation was undertaken comprising intrusive soil investigations and site inspections at three properties Lot 1 in DP 515678, Lot 2 in DP 502333 and Lot 6 in DP 502333.

Information on potential site contamination conditions inferred from the desktop review, previous site investigation, and observations made during site inspection was the basis for the conceptual site model information presented in **Section 4.**

E.1.2 Identify the Decision

Based on the decision making process for assessing urban redevelopment sites detailed in DEC (2006[9]), the following decisions must be made:

- Are there any unacceptable risks to likely future onsite receptors?
- Are there any issues relating to background soil concentrations that exceed appropriate site soil criteria?
- Are there any impacts of chemical mixtures?
- Are there any aesthetic issues at the Site?
- Is there any evidence of, or potential for, migration of contaminants from the Site?
- Is a site management strategy required?

E.1.3 Identify Inputs to the Decision

Inputs identified to provide sufficient data to make the decisions nominated above include:

- Desktop review;
- Detailed site inspection/walkover;
- Physical observations and interpretation of fill and natural material through the collection of soil samples and laboratory chemical analysis results;
- Development of appropriate assessment criteria for evaluation of soil impacts;
- Laboratory analysis of soil samples of potentially contaminated media for COPCs; and
- Confirmation that data generated by sample analysis are of an acceptable quality to allow reliable comparison to assessment criteria by assessment of quality assurance / quality control as per the data quality indicators established in **Section E.6**.

Specifically, sufficient data needs to be collected from each of the identified potentially impacted media in the identified AEC for the associated COPC (**Table 4.1**).

E.1.4 Define the Study Boundaries

[9] *'Contaminated Sites: Guidelines for the NSW Site Auditor Scheme, 2nd* Edition', NSW Environmental Protection Authority, EPA 2006

The lateral study boundary is defined as Lot 1 in DP 515678, Lot 2 in DP 502333 and Lot 6 in DP 502333, as shown on **Figure 2**. The maximum vertical extent of the assessment works was at 1.0 m below the existing ground surface.

Due to the project objectives, seasonality was not assessed as part of this investigation. Data are therefore representative of the timing and duration of the current investigation.

E.1.5 Develop a Decision Rule

Soil analytical data were assessed against the appropriate criteria as identified in **Section 6.2**. Statistical analyses of the data were undertaken, where appropriate in accordance with relevant guidance documents. The following statistical criteria were adopted:

- The 95% Upper Confidence Limit (UCL) on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy or material types) must be below the adopted criterion;
- No single analyte concentration shall exceed 250% of the adopted criterion; and
- The standard deviation of the results must be less than 50% of the criterion.

The decision rules adopted to answer the decisions identified in **Section E.1.2** are summarised in **Table E.1**.

Table E.1: Summary of Decision Rules

Decisions Required to be Made	Decision Rule
1. Are there any unacceptable risks to onsite future receptors?	Analytical data was compared against EPA endorsed criteria. Statistical analysis of the data was completed in accordance with relevant guidance documents, as appropriate, to facilitate the decisions. The criteria in **Section 6.3**, and the following statistical criteria were adopted with respect to soils: Either: the reported concentrations were all below the Site criteria; Or: the average site concentration for each analyte was below the adopted site criterion; no single analyte concentration exceeded 250% of the adopted site criterion; and the standard deviation of the results was less than 50% of the Site criterion; And: the 95% UCL of the average concentration for each analyte was below the adopted site criterion. If the statistical criteria stated above were satisfied, the answer to the decision was No. If the statistical criteria were not satisfied, the answer to the decision was Yes.
2. Are there any background contamination issues?	Background soil concentrations as detailed in Trace Element Concentrations in Soils from Rural and Urban Areas of Australia (Olszowy, et. al. 1995) were used for comparison of site soil data. If there were any contaminants at concentrations substantially outside background ranges, then the answer was yes, otherwise the answer was no
2. Are there any chemical mixtures?	Was there more than one group of contaminants present which increase the risk of harm? If there was, the answer to the decision was Yes. Otherwise, the answer to the decision was No.
3. Are there any aesthetic issues?	If there were any Asbestos Containing Material (ACM) fragments on the ground surface, any unacceptable odours, any soil discolouration, or excessive amounts of anthropogenic material, the answer to the decision was Yes. Otherwise, the answer to the decision was No.
4. Is there any evidence of, or potential for, migration of contaminants from the Site?	Based on assessment results, was there any evidence of, or the potential for, unacceptable contaminant concentrations to migrate from the Site? If yes, the answer to the decisions was Yes. Otherwise, the answer to the decision was No.
5. Is a site management strategy required?	Is the answer to any of the above decisions Yes?

Decisions Required to be Made	Decision Rule
	If yes, a site management strategy is required to address unacceptable contamination concerns at the Site so as to make the Site suitable for permissible site uses. If no, a site management strategy is not required and the Site is considered suitable, from a contamination view point for the proposed use.

E.1.6 Specific Limits on Decision Errors

This step is to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, National Environmental Protection Measure (NEPM) (NEPC 2013[10]), appropriate Data Quality Indicators (DQIs, used to assess quality assurance / quality control) and standard JBS&G procedures for field sampling and handling.

To assess the usability of the data prior to making decisions, the data will be assessed against pre-determined DQIs for to precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters). The acceptable limit on decision error is 95% compliance with DQIs.

The pre-determined DQIs established for the project are discussed below in relation to the PARCCS parameters, and are shown in **Table E.2**.

- **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** – expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the Site, and by using an adequate number of sample locations to characterise the Site to the required accuracy.
- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; and ensuring analysing laboratories use consistent analysis techniques; and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** – expresses the appropriateness of the chosen field and laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

[10] National Environmental Protection (Assessment of Site Contamination) Measure 1999. As compiled 16 May 2013 National Environmental Council (NEPC 2013)

Table E.2: Data Quality Indicators

Data Quality Indicators	Frequency	Data Quality Criteria
Precision		
Split duplicates (intra laboratory)	1 / 20 samples	<50% RPD[1]
Blind duplicates (inter laboratory)	1 / 20 samples	<50% RPD[1]
Laboratory Duplicates	1 / 20 samples	<50% RPD[1]
Accuracy		
Surrogate spikes	All organic samples	70-130%
Laboratory control samples	1 per lab batch	70-130%
Matrix spikes	1 per lab batch	70-130%
Representativeness		
Sampling appropriate for media and analytes	All samples	-[2]
Samples extracted and analysed within holding times.	-	Soil: organics (14 days), inorganics (6 months)
Laboratory Blanks	1 per lab batch	<LOR
Trip spike	1 per lab batch	70-130% recovery
Storage blank	1 per lab batch	<LOR
Rinsate sample	1 per sampling event/media	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All Samples
Standard analytical methods used for all analyses	All Samples	NATA accreditation
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples[2]
Limits of reporting appropriate and consistent	All Samples	All samples[2]
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples[2]
Appropriate documentation	All Samples	All samples[2]
Satisfactory frequency and result for QC samples		95% compliance
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All samples	LOR ≤ site assessment criteria

[1] If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.

[2] A qualitative assessment of compliance with standard procedures and appropriate sample collection methods will be completed during the DQI compliance assessment.

E.2 Optimise the Design for Obtaining Data

Various strategies for developing a statistically based sampling plan are identified in *Contaminated Sites: Sampling Design Guidelines* (EPA 1995), including judgemental, random, systematic and stratified sampling patterns. The adopted sampling methodology is discussed in the following sections.

E.2.1 Soil Investigation Methodology

The number of sampling points required to address the data gap as part of this assessment are indicated in **Table 6.1**. Sampling points were placed on a general systematic grid, skewed towards AECs identified during the site inspection. **Table E.3** details the number and type of systematic and targeted locations advanced into each property.

Table E.3: Soil Sampling Point Summary

Property	Area (ha)	Systematic Test Pits	Targeted Hand Auger Boreholes	Surficial Fragments	Total Investigation Locations
Lot 1 DP 515678 Address: 187 Caddens Road	2.1	14	1	1	16
Lot 2 DP 502333 Address: 189 Caddens Road	1.75	14	3	-	17
Lot 6 DP 502333 Address: 189 Caddens Road	0.07	3	-	-	3

The soil sampling and analysis program is presented in **Table E.4**.

Based on the current CSM and understanding of the Site's historical use, limited potential for widespread or gross contamination, and regional hydrogeological conditions, investigation of groundwater was considered unnecessary to meet the data gap assessment objectives.

E.2.2 Soil Sampling Methodology

Soil sampling was completed by a combination of mechanically advanced test pits using a backhoe and manually advanced boreholes using a hand auger. Soil samples were collected from the soil surface (0-0.1 m) and the subsurface (0.2-0.3 m) in all locations with the exception of TP26, where deep fill was encountered and a sample of natural material was collected at 0.9-1.0 m, underlying the fill material. Additionally, asbestos quantification was undertaken in accordance with methods outlined in the NEPM (NEPC 2013) including collection of a known volume of soil (10 L) and processing through a 7 mm sieve to identify asbestos containing materials

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indicators of contamination were noted. A calibrated Photo Ionisation Detector (PID) was utilised to screen for volatile organic compounds (VOCs) within the sampled material. Calibration records are presented in **Appendix I**.

Soil samples were collected using a trowel and new pair of nitrile gloves and immediately transferred to laboratory supplied sample jars and bags. The sample containers were then transferred to a chilled esky for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory. Based upon field observations, samples were analysed in accordance with the analytical schedule detailed in **Table E.4**.

E.2.3 Decontamination

Prior to the commencement of sampling activities, non-disposable sampling equipment, including the hand trowel and hand auger, was cleaned with a high pressure water/detergent spray, rinsed with water and then air dried. The equipment was then inspected to ensure that no soil, oil, debris or other contaminants were apparent on the equipment prior to the commencement of works.

Soil samples were removed from the hand auger head with the hand trowel and laid on clean plastic sheets for inspection prior to collection. A new pair of disposable nitrile gloves were used to collect each sample.

Sampling equipment was subsequently decontaminated using the above process between each sampling location. Decontamination records are presented in **Appendix I**.

A rinsate sample from the trowel was collected at the completion of field sampling activities to determine the effectiveness of the decontamination procedures implemented on re-usable sampling equipment.

E.2.4 Duplicate and Triplicate Sample Preparation

At selected sample locations sufficient soil was collected to provide a primary, blind (intra-laboratory) duplicate and split (inter-laboratory) duplicate (triplicate) sample using the sampling methodology outlined above.

The collected soil sample was divided laterally into three samples with minimal disturbance to reduce the potential for loss of volatiles and placed in three clean glass jars and sample bags as appropriate. Soil samples were not homogenised in order to minimise the loss of volatiles.

Each sample was labelled with primary, duplicate or triplicate sample identification before being placed in the same chilled esky for transport to the laboratory.

E.2.5 Laboratory Analysis

JBS&G contracted Eurofins MGT (Eurofins) as the primary laboratory for the required chemical analyses. The secondary laboratory was Envirolab Services Pty Ltd (Envirolab). Both laboratories were NATA accredited for the required analyses. In addition, the laboratories were required to meet JBS&G's internal quality assurance/quality control (QA/QC) requirements. The completed analysis schedule is summarised in **Table E.4.**

Table E.4: Analytical Schedule

Sample Type	Sample Type	No. of Sampling Locations	Analyses (exc. QA/QC)
Lot 1 DP 515678 Address: 187 Caddens Road	Soil	14 Test Pit Locations and 1 Hand Auger Location.	Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 18 samples PAH – 7 samples TPH/BTEX – 20 samples Asbestos Identification – 1 Sample OCPs – 8 samples Physical Parameters (CEC, pH and % Clay) – 2 samples
	Material	1 Surficial Fibrous Cement Sheeting Fragment	Asbestos Identification – 1 Sample
Lot 2 and 6 DP 502333 Address: 189 Caddens Road	Soil	17 Test Pit Locations and 3 Surficial Samples	Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 20 samples PAH – 8 samples TPH/BTEX – 22 samples Asbestos Identification – 4 Sample OCPs – 9 samples Physical Parameters (CEC, pH and % Clay) – 2 samples

In addition to the above primary analyses, to address the DQIs, field duplicate and triplicate soil samples were analysed at a rate of one per 20 primary samples for contaminants of concern. A rinsate sample was obtained from non-disposable soil sampling equipment, plus a single trip spike and single trip blank accompanied the sample batch.

Appendix F Detailed Laboratory Documentation

08150

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 52116
PROJECT NAME: Caddens DSI
DATE NEEDED BY: Std
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) RHammond@jbsg.com.au; (3) SMolinari@jbsg.com.au

LABORATORY BATCH NO.:
SAMPLERS: RH
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	CEC	pH	%CLAY	Asbestos	OCPs	TRH/BTEX	PAHs	Heavy Metals	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP01 0-0.1	Soil	10/10/16	-	250mL Jar + bag	NA	X	X	X			X		X			510296
TP01 0.2-0.3																
TP02 0-0.1										X	X		X			
TP02 0.2-0.3												X				
TP03 0-0.1											X		X			
TP03 0.2-0.3											X		X			
TP04 0-0.1										X	X		X			
TP04 0.2-0.3																
TP05 0-0.1											X	X	X			
TP05 0.2-0.3																
TP06 0-0.1										X	X		X			
TP07 0.2-0.3											X					
TP08 0-0.1										X	X		X			
TP08 0.2-0.3												X				
TP09 0-0.1											X	X	X			
TP09 0.2-0.3																
TP10 0-0.1										X	X		X			
TP10 0.2-0.3																
TP11 0-0.1											X	X	X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: RHammond DATE: 11/10/16 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: Signed 1720 DATE: 11/10/16 OF: EFMS	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial, S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody - Generic

08151

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 52116	LABORATORY BATCH NO.:
PROJECT NAME:	SAMPLERS: RH
DATE NEEDED BY: Std	QC LEVEL: NEPM (2013)

PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) RHammond@jbsg.com.au; (3) SMorlmari@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	CEC	pH	%CLAY	OCPs	TRH/BTEX	PAHs	Heavy Metals	PAHs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP11 0.2-0.3	Soil	10/10/16	-	250mL Jar + bag	N/A		X	X	X		X						
TP12 0-0.1										X	X	X	X				
TP12 0.2-0.3																	
TP13 0-0.1						X				X	X	X	X		X		
TP13 0.2-0.3											X		X				
TP14 0-0.1											X		X				
TP14 0.2-0.3											X		X				
TP15 0-0.1										X	X		X				
TP15 0.2-0.3																	
TP16 0-0.1						X					X		X	X	X		
TP16 0.2-0.3											X						
TP17 0-0.1											X						
TP17 0.2-0.3													X				
TP18 0-0.1											X		X				
TP18 0.2-0.3							X	X	X								
TP19 0-0.1											X			X			
TP19 0.2-0.3													X				
TP20 0-0.1											X		X				
TP20 0.2-0.3																	

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: RHamm DATE: 10/10/16	CONSIGNMENT NOTE NO.	NAME: SS	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 11/10/16	COOLER TEMP ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody - Generic

08152

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 52116
PROJECT NAME:
DATE NEEDED BY: Std
LABORATORY BATCH NO.:
SAMPLERS: RH
QC LEVEL: NEPM (2013)
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) RHammond@jbsg.com.au; (3) SMarinali@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	OCPs	Asbestos	TRH/BTEX	PAHs	Heavy Metals	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP21 0-0.1	Soil	10/10/16	-	250mL Jar-HDay	NA	X		X		X			
TP21 0.2-0.3								X					
TP22 0-0.1						X		X	X	X			
TP22 0.2-0.3													
TP23 0-0.1						X		X					
TP23 0.2-0.3								X		X			
TP24 0-0.1								X					
TP24 0.2-0.3													
TP25 0-0.1								X		X			
TP25 0.2-0.3													
TP26 0-0.1							X	X	X	X	X		
TP26 0.2-0.3								X		X			
TP27 0-0.1						X		X					
TP27 0.2-0.3										X			
TP28 0-0.1						X		X		X			
TP28 0.2-0.3													
TP29 0-0.1						X	X	X	X	X	X		
TP29 0.2-0.3													
TP30 0-0.1								X		X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Rohan H DATE: 10/10/16	CONSIGNMENT NOTE NO.	NAME: SS DATE: 11/10/16	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF:	COOLER TEMP ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 - Chain of Custody - Generic

08153

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 52116 | LABORATORY BATCH NO.:

PROJECT NAME: | SAMPLERS: RH

DATE NEEDED BY: Std | QC LEVEL: NEPM (2013)

PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) RHammond@jbsg.com.au; (3) SMedwell@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	TRH/BTEX	Heavy Metals	CEC	pH	% CLAY	PAHs	OCP	BTEX	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP30 ~~0-0.2~~ 0.2-0.3	Soil	10/10/16	-	250mL Jar+bag			X	X				X					519296
TP34 0-0.1							X	X				X					
TP31 0.2-0.3									X	X	X						
TP32 0-0.1							X	X									
TP32 0.2-0.3									X	X	X						
TP33 0-0.1							X	X									
TP33 0.2-0.3																	
SS-ACM01	Material			Bag		X									X		
QC01	Soil			250mL Jar+bag			X	X									
QC02							X	X									
QC03						X	X	X				X	X		X		
RINS	Water			Bottles Vials & HP			X	X				X	X				
TS/TB														X			
SS01	Soil			250mL Jar+bag									X				
SS02 - Vege Patch								X				X	X				
SS03 - Drain								X									
TP26 0.9-1.0																	
TP06 0.2-0.3																	
TP07 0.0-0.1							X	X									

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: RHammond DATE: 11/10/16	CONSIGNMENT NOTE NO.	NAME: SS	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 11/10/16	COOLER TEMP ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody - Generic

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**JBS & G Australia (NSW & WA) P/L**
Contact name:	Rohan Hammond
Project name:	CADDENS DSI
Project ID:	52116
COC number:	08150-53
Turn around time:	5 Day
Date/Time received:	Oct 11, 2016 5:20 PM
Eurofins | mgt reference:	**519296**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 6 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Extra sample received TP15_0.1 (jar) placed on hold | Bag only received TP13_0-0.1 and TP13_0.3; asbestos only conducted

Contact notes

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

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Rohan Hammond - rhammond@jbsg.com.au.

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail	% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271				X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X									
Brisbane Laboratory - NATA Site # 20794	X											
External Laboratory												

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID											
	TP01_0-0.1	Oct 10, 2016		Soil	S16-Oc10337	X				X			X	X	X	X	X
	TP02_0-0.1	Oct 10, 2016		Soil	S16-Oc10338							X	X	X	X		X
	TP02_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10339						X				X		
	TP03_0-0.1	Oct 10, 2016		Soil	S16-Oc10340								X	X	X		X
	TP03_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10341								X	X	X		X
	TP04_0-0.1	Oct 10, 2016		Soil	S16-Oc10342							X	X	X	X		X
	TP05_0-0.1	Oct 10, 2016		Soil	S16-Oc10343						X		X	X	X		X
	TP06_0-0.1	Oct 10, 2016		Soil	S16-Oc10344							X	X	X	X		X
	TP07_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10345									X	X		X
	TP08_0-0.1	Oct 10, 2016		Soil	S16-Oc10346							X	X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
	TP08_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10347						X				X		
	TP09_0-0.1	Oct 10, 2016		Soil	S16-Oc10348						X		X	X	X		X
	TP10_0-0.1	Oct 10, 2016		Soil	S16-Oc10349							X	X	X	X		X
	TP11_0-0.1	Oct 10, 2016		Soil	S16-Oc10350						X		X	X	X		X
	TP11_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10351	X				X			X	X	X	X	X
	TP12_0-0.1	Oct 10, 2016		Soil	S16-Oc10352						X	X	X	X	X		X
	TP13_0-0.1	Oct 10, 2016		Soil	S16-Oc10353		X										
	TP13_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10354			X									
	TP14_0-0.1	Oct 10, 2016		Soil	S16-Oc10355								X	X	X		X
	TP14_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10356								X	X	X		X
	TP15_0-0.1	Oct 10, 2016		Soil	S16-Oc10357							X	X	X	X		X
	TP16_0-0.1	Oct 10, 2016		Soil	S16-Oc10358		X				X		X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP16_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10359								X	X		X
	TP17_0-0.1	Oct 10, 2016		Soil	S16-Oc10360								X	X		X
	TP17_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10361							X		X		
	TP18_0-0.1	Oct 10, 2016		Soil	S16-Oc10362							X	X	X		X
	TP18_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10363	X				X				X	X	
	TP19_0-0.1	Oct 10, 2016		Soil	S16-Oc10364						X		X	X		X
	TP19_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10365							X		X		
	TP20_0-0.1	Oct 10, 2016		Soil	S16-Oc10366							X	X	X		X
	TP21_0-0.1	Oct 10, 2016		Soil	S16-Oc10367							X	X	X		X
	TP21_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10368								X	X		X
	TP22_0-0.1	Oct 10, 2016		Soil	S16-Oc10369						X	X	X	X		X
	TP23_0-0.1	Oct 10, 2016		Soil	S16-Oc10370							X		X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	
Address:	Level 1, 50 Margaret St	**Report #:**	519296
	Sydney	**Phone:**	02 8245 0300
	NSW 2000	**Fax:**	
Project Name:	CADDENS DSI		
Project ID:	52116		

Received:	Oct 11, 2016 5:20 PM
Due:	Oct 18, 2016
Priority:	5 Day
Contact Name:	Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP23_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10371							X	X	X		X
	TP24_0-0.1	Oct 10, 2016		Soil	S16-Oc10372								X	X		X
	TP25_0-0.1	Oct 10, 2016		Soil	S16-Oc10373							X	X	X		X
	TP26_0-0.1	Oct 10, 2016		Soil	S16-Oc10374		X				X	X	X	X		X
	TP26_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10375							X	X	X		X
	TP27_0-0.1	Oct 10, 2016		Soil	S16-Oc10376						X		X	X		X
	TP27_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10377							X		X		
	TP28_0-0.1	Oct 10, 2016		Soil	S16-Oc10378						X	X	X	X		X
	TP29_0-0.1	Oct 10, 2016		Soil	S16-Oc10379		X				X	X	X	X		X
	TP30_0-0.1	Oct 10, 2016		Soil	S16-Oc10380							X	X	X		X
	TP31_0-0.1	Oct 10, 2016		Soil	S16-Oc10381						X		X	X		X
	TP32_0-0.1	Oct 10, 2016		Soil	S16-Oc10382							X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP32_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10383	X				X					X	X	
	TP33_0-0.1	Oct 10, 2016		Soil	S16-Oc10384			X									
	ACM01	Oct 10, 2016		Other	S16-Oc10385		X										
	QC01	Oct 10, 2016		Soil	S16-Oc10386								X	X	X		X
	QC02	Oct 10, 2016		Soil	S16-Oc10387								X	X	X		X
	QC03	Oct 10, 2016		Soil	S16-Oc10388		X				X	X	X	X	X		X
	RINS	Oct 10, 2016		Water	S16-Oc10389						X	X	X	X			X
	TS	Oct 10, 2016		Water	S16-Oc10390									X			
	TB	Oct 10, 2016		Water	S16-Oc10391									X			
	SS01	Oct 10, 2016		Soil	S16-Oc10392							X			X		
	SS02_VEGE PATCH	Oct 10, 2016		Soil	S16-Oc10393						X	X	X		X		

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	SS03_DRAIN	Oct 10, 2016		Soil	S16-Oc10394							X		X		
	TP07_0.0-0.1	Oct 10, 2016		Soil	S16-Oc10395							X	X	X		X
	TP01_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10396			X								
	TP04_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10397			X								
	TP05_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10398			X								
	TP09_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10399			X								
	TP10_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10400			X								
	TP12_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10401			X								
	TP15_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10402			X								
	TP20_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10403			X								
	TP22_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10404			X								
	TP24_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10405			X								

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP25_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10406			X								
	TP28_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10407			X								
	TP29_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10408			X								
	TP30_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10409			X								
	TP31_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10410			X								
	TP33_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10411		X									
	TP26_0.9-1.0	Oct 10, 2016		Soil	S16-Oc10412			X								
	TP06_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10413			X								
	TP15_0.1	Oct 10, 2016		Soil	S16-Oc10414			X								
Test Counts					4	6	3	18	4	15	17	40	45	52	4	43

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Rohan Hammond
Report	519296-AID
Project Name	CADDENS DSI
Project ID	52116
Received Date	Oct 11, 2016
Date Reported	Oct 18, 2016

Methodology:

Asbestos ID	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.
Subsampling Soil Samples	The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding 400 ± 30°C. The resultant material is then ground and examined in accordance with AS 4964-2004.
Limit of Reporting	The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, “Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise” therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name CADDENS DSI
Project ID 52116
Date Sampled Oct 10, 2016
Report 519296-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
TP13_0-0.1	16-Oc10353	Oct 10, 2016	Approximate Sample 578g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected. Organic fibre detected. No respirable fibres detected.
TP16_0-0.1	16-Oc10358	Oct 10, 2016	Approximate Sample 740g Sample consisted of: Brown coarse grain soil and rocks	Chrysotile, amosite and crocidolite asbestos detected in weathered and unweathered fibre cement fragments. Approximate raw weight of asbestos containing material = 0.8584g Organic fibre detected. No respirable fibres detected.
TP26_0-0.1	16-Oc10374	Oct 10, 2016	Approximate Sample 740g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected. Organic fibre detected. No respirable fibres detected.
TP29_0-0.1	16-Oc10379	Oct 10, 2016	Approximate Sample 570g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected. Organic fibre detected. No respirable fibres detected.
ACM01	16-Oc10385	Oct 10, 2016	Approximate Sample 78g Sample consisted of: Grey compressed fibre cement material	Chrysotile, amosite and crocidolite asbestos detected.
QC03	16-Oc10388	Oct 10, 2016	Approximate Sample 693g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected. Organic fibre detected. No respirable fibres detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 12, 2016	Indefinite

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	TP01_0-0.1	Oct 10, 2016		Soil	S16-Oc10337	X				X			X	X	X	X	X
2	TP02_0-0.1	Oct 10, 2016		Soil	S16-Oc10338							X	X	X	X		X
3	TP02_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10339						X				X		
4	TP03_0-0.1	Oct 10, 2016		Soil	S16-Oc10340								X	X	X		X
5	TP03_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10341								X	X	X		X
6	TP04_0-0.1	Oct 10, 2016		Soil	S16-Oc10342							X	X	X	X		X
7	TP05_0-0.1	Oct 10, 2016		Soil	S16-Oc10343						X		X	X	X		X
8	TP06_0-0.1	Oct 10, 2016		Soil	S16-Oc10344							X	X	X	X		X
9	TP07_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10345									X	X		X
10	TP08_0-0.1	Oct 10, 2016		Soil	S16-Oc10346							X	X	X	X		X

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
11	TP08_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10347						X				X		
12	TP09_0-0.1	Oct 10, 2016		Soil	S16-Oc10348						X		X	X	X		X
13	TP10_0-0.1	Oct 10, 2016		Soil	S16-Oc10349							X	X	X	X		X
14	TP11_0-0.1	Oct 10, 2016		Soil	S16-Oc10350						X		X	X	X		X
15	TP11_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10351	X				X			X	X	X	X	X
16	TP12_0-0.1	Oct 10, 2016		Soil	S16-Oc10352						X	X	X	X	X		X
17	TP13_0-0.1	Oct 10, 2016		Soil	S16-Oc10353		X										
18	TP13_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10354			X									
19	TP14_0-0.1	Oct 10, 2016		Soil	S16-Oc10355								X	X	X		X
20	TP14_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10356								X	X	X		X
21	TP15_0-0.1	Oct 10, 2016		Soil	S16-Oc10357							X	X	X	X		X
22	TP16_0-0.1	Oct 10, 2016		Soil	S16-Oc10358		X				X		X	X	X		X

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
23	TP16_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10359									X	X		X
24	TP17_0-0.1	Oct 10, 2016		Soil	S16-Oc10360									X	X		X
25	TP17_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10361								X		X		
26	TP18_0-0.1	Oct 10, 2016		Soil	S16-Oc10362								X	X	X		X
27	TP18_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10363	X				X					X	X	
28	TP19_0-0.1	Oct 10, 2016		Soil	S16-Oc10364						X			X	X		X
29	TP19_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10365								X		X		
30	TP20_0-0.1	Oct 10, 2016		Soil	S16-Oc10366								X	X	X		X
31	TP21_0-0.1	Oct 10, 2016		Soil	S16-Oc10367							X	X	X	X		X
32	TP21_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10368									X	X		X
33	TP22_0-0.1	Oct 10, 2016		Soil	S16-Oc10369						X	X	X	X	X		X
34	TP23_0-0.1	Oct 10, 2016		Soil	S16-Oc10370							X		X	X		X

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
35	TP23_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10371								X	X	X		X
36	TP24_0-0.1	Oct 10, 2016		Soil	S16-Oc10372									X	X		X
37	TP25_0-0.1	Oct 10, 2016		Soil	S16-Oc10373								X	X	X		X
38	TP26_0-0.1	Oct 10, 2016		Soil	S16-Oc10374		X				X		X	X	X		X
39	TP26_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10375								X	X	X		X
40	TP27_0-0.1	Oct 10, 2016		Soil	S16-Oc10376							X		X	X		X
41	TP27_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10377								X		X		
42	TP28_0-0.1	Oct 10, 2016		Soil	S16-Oc10378							X	X	X	X		X
43	TP29_0-0.1	Oct 10, 2016		Soil	S16-Oc10379		X				X	X	X	X	X		X
44	TP30_0-0.1	Oct 10, 2016		Soil	S16-Oc10380								X	X	X		X
45	TP31_0-0.1	Oct 10, 2016		Soil	S16-Oc10381						X		X	X	X		X
46	TP32_0-0.1	Oct 10, 2016		Soil	S16-Oc10382								X	X	X		X

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
47	TP32_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10383	X				X					X	X	
48	TP33_0-0.1	Oct 10, 2016		Soil	S16-Oc10384			X									
49	ACM01	Oct 10, 2016		Other	S16-Oc10385		X										
50	QC01	Oct 10, 2016		Soil	S16-Oc10386								X	X	X		X
51	QC02	Oct 10, 2016		Soil	S16-Oc10387								X	X	X		X
52	QC03	Oct 10, 2016		Soil	S16-Oc10388		X				X	X	X	X	X		X
53	RINS	Oct 10, 2016		Water	S16-Oc10389						X	X	X	X			X
54	TS	Oct 10, 2016		Water	S16-Oc10390									X			
55	TB	Oct 10, 2016		Water	S16-Oc10391									X			
56	SS01	Oct 10, 2016		Soil	S16-Oc10392							X			X		
57	SS02_VEGE PATCH	Oct 10, 2016		Soil	S16-Oc10393						X	X	X		X		

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
58	SS03_DRAIN	Oct 10, 2016		Soil	S16-Oc10394								X		X		
59	TP07_0.0-0.1	Oct 10, 2016		Soil	S16-Oc10395								X	X	X		X
60	TP01_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10396				X								
61	TP04_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10397				X								
62	TP05_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10398				X								
63	TP09_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10399				X								
64	TP10_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10400				X								
65	TP12_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10401				X								
66	TP15_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10402				X								
67	TP20_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10403				X								
68	TP22_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10404				X								
69	TP24_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10405				X								

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: JBS & G Australia (NSW & WA) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CADDENS DSI
Project ID: 52116

Order No.:
Report #: 519296
Phone: 02 8245 0300
Fax:

Received: Oct 11, 2016 5:20 PM
Due: Oct 18, 2016
Priority: 5 Day
Contact Name: Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
70	TP25_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10406				X								
71	TP28_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10407				X								
72	TP29_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10408				X								
73	TP30_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10409				X								
74	TP31_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10410				X								
75	TP33_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10411			X									
76	TP26_0.9-1.0	Oct 10, 2016		Soil	S16-Oc10412				X								
77	TP06_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10413				X								
78	TP15_0.1	Oct 10, 2016		Soil	S16-Oc10414				X								
Test Counts						4	6	3	18	4	15	17	40	45	52	4	43

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
COC	Chain of custody
SRA	Sample Receipt Advice
ISO	International Stardards Organisation
AS	Australian Standards
WA DOH	Western Australia Department of Health
NOHSC	National Occupational Health and Safety Commission
ACM	Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential for fibre release.
FA	FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
PACM	Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.
AF	Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substatntial degree of damage which increases the potential for fibre release.)
AC	Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Authorised by:

Rhys Thomas Senior Analyst-Asbestos (NSW)

Glenn Jackson
National Operations Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: **Rohan Hammond**

Report **519296-S**
Project name CADDENS DSI
Project ID 52116
Received Date Oct 11, 2016

Client Sample ID			**TP01_0-0.1**	**TP02_0-0.1**	**TP02_0.2-0.3**	**TP03_0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S16-Oc10337**	**S16-Oc10338**	**S16-Oc10339**	**S16-Oc10340**
Date Sampled			**Oct 10, 2016**	**Oct 10, 2016**	**Oct 10, 2016**	**Oct 10, 2016**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	67	109	-	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			TP01_0-0.1	TP02_0-0.1	TP02_0.2-0.3	TP03_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10337	S16-Oc10338	S16-Oc10339	S16-Oc10340
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	95	-
p-Terphenyl-d14 (surr.)	1	%	-	-	90	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	1	mg/kg	-	< 1	-	-
Dibutylchlorendate (surr.)	1	%	-	147	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	79	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
% Clay	1	%	33	-	-	-
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	22	-	-	-
pH (1:5 Aqueous extract)	0.1	pH Units	6.7	-	-	-
% Moisture	1	%	14	21	22	17
Ion Exchange Properties						
Cation Exchange Capacity	0.05	meq/100g	16	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	13	8.7	-	8.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	23	21	-	20
Copper	5	mg/kg	36	37	-	41
Lead	5	mg/kg	20	17	-	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	23	23	-	21
Zinc	5	mg/kg	56	57	-	64

Client Sample ID			TP03_0.2-0.3	TP04_0-0.1	TP05_0-0.1	TP06_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10341	S16-Oc10342	S16-Oc10343	S16-Oc10344
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	50	116	74	51
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	91	-
p-Terphenyl-d14 (surr.)	1	%	-	-	94	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			TP03_0.2-0.3	TP04_0-0.1	TP05_0-0.1	TP06_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10341	S16-Oc10342	S16-Oc10343	S16-Oc10344
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	1	mg/kg	-	< 1	-	< 1
Dibutylchlorendate (surr.)	1	%	-	137	-	131
Tetrachloro-m-xylene (surr.)	1	%	-	87	-	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	16	17	19	13
Heavy Metals						
Arsenic	2	mg/kg	7.1	8.1	8.6	8.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	24	24	18
Copper	5	mg/kg	42	31	43	28
Lead	5	mg/kg	16	15	16	21
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	21	20	31	22
Zinc	5	mg/kg	59	45	81	52

Client Sample ID			TP07_0.2-0.3	TP08_0-0.1	TP08_0.2-0.3	TP09_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10345	S16-Oc10346	S16-Oc10347	S16-Oc10348
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2

Client Sample ID			TP07_0.2-0.3	TP08_0-0.1	TP08_0.2-0.3	TP09_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10345	S16-Oc10346	S16-Oc10347	S16-Oc10348
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
BTEX						
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	122	111	-	115
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	1.2
Acenaphthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	-	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	94	94
p-Terphenyl-d14 (surr.)	1	%	-	-	95	96
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			TP07_0.2-0.3	TP08_0-0.1	TP08_0.2-0.3	TP09_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10345	S16-Oc10346	S16-Oc10347	S16-Oc10348
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	1	mg/kg	-	< 1	-	-
Dibutylchlorendate (surr.)	1	%	-	140	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	119	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
% Moisture	1	%	21	16	13	20
Heavy Metals						
Arsenic	2	mg/kg	-	9.3	-	5.0
Cadmium	0.4	mg/kg	-	< 0.4	-	< 0.4
Chromium	5	mg/kg	-	24	-	22
Copper	5	mg/kg	-	34	-	31
Lead	5	mg/kg	-	18	-	15
Mercury	0.1	mg/kg	-	< 0.1	-	< 0.1
Nickel	5	mg/kg	-	21	-	22
Zinc	5	mg/kg	-	60	-	52

Client Sample ID			TP10_0-0.1	TP11_0-0.1	TP11_0.2-0.3	TP12_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10349	S16-Oc10350	S16-Oc10351	S16-Oc10352
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	109	75	65
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			TP10_0-0.1	TP11_0-0.1	TP11_0.2-0.3	TP12_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10349	S16-Oc10350	S16-Oc10351	S16-Oc10352
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	-	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	93	-	97
p-Terphenyl-d14 (surr.)	1	%	-	95	-	105
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	1	mg/kg	< 1	-	-	< 1
Dibutylchlorendate (surr.)	1	%	136	-	-	132
Tetrachloro-m-xylene (surr.)	1	%	72	-	-	117
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			TP10_0-0.1	TP11_0-0.1	TP11_0.2-0.3	TP12_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10349	S16-Oc10350	S16-Oc10351	S16-Oc10352
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
% Clay	1	%	-	-	25	-
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	-	20	-
pH (1:5 Aqueous extract)	0.1	pH Units	-	-	7.9	-
% Moisture	1	%	17	14	12	17
Ion Exchange Properties						
Cation Exchange Capacity	0.05	meq/100g	-	-	19	-
Heavy Metals						
Arsenic	2	mg/kg	11	11	9.7	6.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	26	24	28
Copper	5	mg/kg	35	37	37	33
Lead	5	mg/kg	27	23	21	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	23	28	29	32
Zinc	5	mg/kg	75	72	72	64

Client Sample ID			TP14_0-0.1	TP14_0.2-0.3	TP15_0-0.1	TP16_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10355	S16-Oc10356	S16-Oc10357	S16-Oc10358
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	50	75	74	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			TP14_0-0.1	TP14_0.2-0.3	TP15_0-0.1	TP16_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10355	S16-Oc10356	S16-Oc10357	S16-Oc10358
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	94
p-Terphenyl-d14 (surr.)	1	%	-	-	-	105
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-BHC	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	< 0.05	-
b-BHC	0.05	mg/kg	-	-	< 0.05	-
d-BHC	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	1	mg/kg	-	-	< 1	-
Dibutylchlorendate (surr.)	1	%	-	-	133	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	122	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	14	16	17	6.9

Client Sample ID			TP14_0-0.1	TP14_0.2-0.3	TP15_0-0.1	TP16_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10355	S16-Oc10356	S16-Oc10357	S16-Oc10358
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	8.1	8.5	7.5	8.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	29	28	24	30
Copper	5	mg/kg	34	32	30	16
Lead	5	mg/kg	27	28	21	21
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	29	27	26	21
Zinc	5	mg/kg	76	68	66	33

Client Sample ID			TP16_0.2-0.3	TP17_0-0.1	TP17_0.2-0.3	TP18_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10359	S16-Oc10360	S16-Oc10361	S16-Oc10362
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	73	67	-	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
% Moisture	1	%	13	16	20	13
Heavy Metals						
Arsenic	2	mg/kg	-	-	10	8.1
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	23	19
Copper	5	mg/kg	-	-	33	23
Lead	5	mg/kg	-	-	22	21
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	27	15
Zinc	5	mg/kg	-	-	64	66

Client Sample ID			TP18_0.2-0.3	TP19_0-0.1	TP19_0.2-0.3	TP20_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10363	S16-Oc10364	S16-Oc10365	S16-Oc10366
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	-	< 20
TRH C10-C14	20	mg/kg	-	< 20	-	< 20
TRH C15-C28	50	mg/kg	-	< 50	-	< 50
TRH C29-C36	50	mg/kg	-	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	61	-	65
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	-	< 50
TRH C6-C10	20	mg/kg	-	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	90	-	-
p-Terphenyl-d14 (surr.)	1	%	-	98	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	< 50	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100	-	< 100
% Clay	1	%	33	-	-	-
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	26	-	-	-
pH (1:5 Aqueous extract)	0.1	pH Units	7.3	-	-	-
% Moisture	1	%	18	15	25	1.1

Client Sample ID			TP18_0.2-0.3	TP19_0-0.1	TP19_0.2-0.3	TP20_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10363	S16-Oc10364	S16-Oc10365	S16-Oc10366
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Ion Exchange Properties						
Cation Exchange Capacity	0.05	meq/100g	14	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	-	-	19	50
Cadmium	0.4	mg/kg	-	-	< 0.4	< 0.4
Chromium	5	mg/kg	-	-	29	30
Copper	5	mg/kg	-	-	41	45
Lead	5	mg/kg	-	-	24	9.9
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	31	6.4
Zinc	5	mg/kg	-	-	76	82

Client Sample ID			TP21_0-0.1	TP21_0.2-0.3	TP22_0-0.1	TP23_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10367	S16-Oc10368	S16-Oc10369	S16-Oc10370
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	69	64	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	1.2	-
Acenaphthene	0.5	mg/kg	-	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	-	< 0.5	-
Anthracene	0.5	mg/kg	-	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Chrysene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			TP21_0-0.1	TP21_0.2-0.3	TP22_0-0.1	TP23_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10367	S16-Oc10368	S16-Oc10369	S16-Oc10370
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	-	< 0.5	-
Fluorene	0.5	mg/kg	-	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	-	< 0.5	-
Pyrene	0.5	mg/kg	-	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	-	95	-
p-Terphenyl-d14 (surr.)	1	%	-	-	104	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	0.49	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	-	< 1	< 1
Dibutylchlorendate (surr.)	1	%	143	-	107	137
Tetrachloro-m-xylene (surr.)	1	%	144	-	59	138
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	15	14	19	20
Heavy Metals						
Arsenic	2	mg/kg	9.2	-	7.9	-
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	-
Chromium	5	mg/kg	24	-	19	-
Copper	5	mg/kg	25	-	23	-
Lead	5	mg/kg	21	-	21	-
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	-
Nickel	5	mg/kg	18	-	16	-
Zinc	5	mg/kg	44	-	54	-

Client Sample ID			TP23_0.2-0.3	TP24_0-0.1	TP25_0-0.1	TP26_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10371	S16-Oc10372	S16-Oc10373	S16-Oc10374
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	59	63	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	89
p-Terphenyl-d14 (surr.)	1	%	-	-	-	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	24	18	12	16

Client Sample ID			TP23_0.2-0.3	TP24_0-0.1	TP25_0-0.1	TP26_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10371	S16-Oc10372	S16-Oc10373	S16-Oc10374
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	8.4	-	9.9	8.3
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	32	-	20	33
Copper	5	mg/kg	37	-	33	38
Lead	5	mg/kg	17	-	19	22
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	27	-	19	27
Zinc	5	mg/kg	58	-	44	67

Client Sample ID			TP26_0.2-0.3	TP27_0-0.1	TP27_0.2-0.3	TP28_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10375	S16-Oc10376	S16-Oc10377	S16-Oc10378
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	67	80	-	67
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	0.09
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			TP26_0.2-0.3	TP27_0-0.1	TP27_0.2-0.3	TP28_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10375	S16-Oc10376	S16-Oc10377	S16-Oc10378
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Toxaphene	1	mg/kg	-	< 1	-	< 1
Dibutylchlorendate (surr.)	1	%	-	141	-	112
Tetrachloro-m-xylene (surr.)	1	%	-	121	-	118
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
% Moisture	1	%	14	20	18	16
Heavy Metals						
Arsenic	2	mg/kg	7.4	-	5.0	9.9
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	26	-	12	27
Copper	5	mg/kg	34	-	27	28
Lead	5	mg/kg	18	-	13	29
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	26	-	7.1	21
Zinc	5	mg/kg	63	-	23	57

Client Sample ID			TP29_0-0.1	TP30_0-0.1	TP31_0-0.1	TP32_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10379	S16-Oc10380	S16-Oc10381	S16-Oc10382
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	94	66	85	82

Client Sample ID			TP29_0-0.1	TP30_0-0.1	TP31_0-0.1	TP32_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10379	S16-Oc10380	S16-Oc10381	S16-Oc10382
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	95	-	89	-
p-Terphenyl-d14 (surr.)	1	%	89	-	91	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	0.32	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-

Client Sample ID			TP29_0-0.1	TP30_0-0.1	TP31_0-0.1	TP32_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10379	S16-Oc10380	S16-Oc10381	S16-Oc10382
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Dibutylchlorendate (surr.)	1	%	109	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	123	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
% Moisture	1	%	15	16	9.2	13
Heavy Metals						
Arsenic	2	mg/kg	8.7	8.7	20	5.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	42	23	25	24
Copper	5	mg/kg	35	31	31	33
Lead	5	mg/kg	25	22	19	16
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	33	24	26	26
Zinc	5	mg/kg	70	67	62	58

Client Sample ID			TP32_0.2-0.3	QC01	QC02	QC03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10383	S16-Oc10386	S16-Oc10387	S16-Oc10388
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	-	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	-	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	74	72	68
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			TP32_0.2-0.3	QC01	QC02	QC03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10383	S16-Oc10386	S16-Oc10387	S16-Oc10388
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	100
p-Terphenyl-d14 (surr.)	1	%	-	-	-	98
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	0.42
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-BHC	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-BHC	0.05	mg/kg	-	-	-	< 0.05
d-BHC	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.05	mg/kg	-	-	-	< 0.05
Toxaphene	1	mg/kg	-	-	-	< 1
Dibutylchlorendate (surr.)	1	%	-	-	-	142
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	51
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100

Client Sample ID			TP32_0.2-0.3	QC01	QC02	QC03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10383	S16-Oc10386	S16-Oc10387	S16-Oc10388
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
% Clay	1	%	33	-	-	-
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	22	-	-	-
pH (1:5 Aqueous extract)	0.1	pH Units	6.9	-	-	-
% Moisture	1	%	14	19	15	15
Ion Exchange Properties						
Cation Exchange Capacity	0.05	meq/100g	15	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	-	7.2	8.9	9.7
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	20	39	52
Copper	5	mg/kg	-	44	41	40
Lead	5	mg/kg	-	17	31	28
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	22	35	39
Zinc	5	mg/kg	-	68	87	90

Client Sample ID			SS01	SS02_VEGE PATCH	SS03_DRAIN	TP07_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10392	S16-Oc10393	S16-Oc10394	S16-Oc10395
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	-	< 50
TRH C10-36 (Total)	50	mg/kg	-	-	-	< 50
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	-	< 50
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	-
Anthracene	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			SS01	SS02_VEGE PATCH	SS03_DRAIN	TP07_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10392	S16-Oc10393	S16-Oc10394	S16-Oc10395
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Chrysene	0.5	mg/kg	-	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-	-
Fluorene	0.5	mg/kg	-	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	-
Naphthalene	0.5	mg/kg	-	< 0.5	-	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-	-
Pyrene	0.5	mg/kg	-	< 0.5	-	-
Total PAH*	0.5	mg/kg	-	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	-	94	-	-
p-Terphenyl-d14 (surr.)	1	%	-	92	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	1	mg/kg	< 1	< 1	-	-
Dibutylchlorendate (surr.)	1	%	95	149	-	-
Tetrachloro-m-xylene (surr.)	1	%	116	62	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
% Moisture	1	%	83	3.0	5.2	18

Client Sample ID			SS01	SS02_VEGE PATCH	SS03_DRAIN	TP07_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S16-Oc10392	S16-Oc10393	S16-Oc10394	S16-Oc10395
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	-	8.4	6.2	15
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	17	25	35
Copper	5	mg/kg	-	30	74	41
Lead	5	mg/kg	-	18	30	16
Mercury	0.1	mg/kg	-	< 0.1	0.1	0.1
Nickel	5	mg/kg	-	17	24	31
Zinc	5	mg/kg	-	90	190	81

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Oct 13, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 13, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 13, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
BTEX	Melbourne	Oct 13, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Oct 13, 2016	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Organochlorine Pesticides	Melbourne	Oct 13, 2016	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
% Clay	Brisbane	Oct 13, 2016	6 Day
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract)	Melbourne	Oct 13, 2016	7 Day
- Method: LTM-GEN-7090 pH in soil by ISE			
Metals M8	Melbourne	Oct 13, 2016	28 Days
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Conductivity (1:5 aqueous extract at 25°C)	Melbourne	Oct 13, 2016	7 Day
- Method: LTM-INO-4030			
Ion Exchange Properties	Melbourne	Oct 14, 2016	
% Moisture	Melbourne	Oct 12, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN : 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:**	519296
		Phone:	02 8245 0300
		Fax:	
Project Name:	CADDENS DSI		
Project ID:	52116		

Received:	Oct 11, 2016 5:20 PM
Due:	Oct 18, 2016
Priority:	5 Day
Contact Name:	Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066
ABN : 50 005 085 521 Telephone: +61 2 9900 8400 Facsimile: +61 2 9420 2977

Sample Detail	% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271				X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X									
Brisbane Laboratory - NATA Site # 20794	X											
External Laboratory												

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID											
	TP01_0-0.1	Oct 10, 2016		Soil	S16-Oc10337	X				X			X	X	X	X	X
	TP02_0-0.1	Oct 10, 2016		Soil	S16-Oc10338							X	X	X	X		X
	TP02_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10339						X				X		
	TP03_0-0.1	Oct 10, 2016		Soil	S16-Oc10340								X	X	X		X
	TP03_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10341								X	X	X		X
	TP04_0-0.1	Oct 10, 2016		Soil	S16-Oc10342							X	X	X	X		X
	TP05_0-0.1	Oct 10, 2016		Soil	S16-Oc10343						X		X	X	X		X
	TP06_0-0.1	Oct 10, 2016		Soil	S16-Oc10344							X	X	X	X		X
	TP07_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10345									X	X		X
	TP08_0-0.1	Oct 10, 2016		Soil	S16-Oc10346							X	X	X	X		X

Date Reported: Oct 18, 2016

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
	TP08_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10347						X				X		
	TP09_0-0.1	Oct 10, 2016		Soil	S16-Oc10348						X		X	X	X		X
	TP10_0-0.1	Oct 10, 2016		Soil	S16-Oc10349							X	X	X	X		X
	TP11_0-0.1	Oct 10, 2016		Soil	S16-Oc10350						X		X	X	X		X
	TP11_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10351	X				X			X	X	X	X	X
	TP12_0-0.1	Oct 10, 2016		Soil	S16-Oc10352						X	X	X	X	X		X
	TP13_0-0.1	Oct 10, 2016		Soil	S16-Oc10353		X										
	TP13_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10354			X									
	TP14_0-0.1	Oct 10, 2016		Soil	S16-Oc10355								X	X	X		X
	TP14_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10356								X	X	X		X
	TP15_0-0.1	Oct 10, 2016		Soil	S16-Oc10357							X	X	X	X		X
	TP16_0-0.1	Oct 10, 2016		Soil	S16-Oc10358		X				X		X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP16_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10359								X	X		X
	TP17_0-0.1	Oct 10, 2016		Soil	S16-Oc10360								X	X		X
	TP17_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10361							X		X		
	TP18_0-0.1	Oct 10, 2016		Soil	S16-Oc10362							X	X	X		X
	TP18_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10363	X				X				X	X	
	TP19_0-0.1	Oct 10, 2016		Soil	S16-Oc10364						X		X	X		X
	TP19_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10365							X		X		
	TP20_0-0.1	Oct 10, 2016		Soil	S16-Oc10366							X	X	X		X
	TP21_0-0.1	Oct 10, 2016		Soil	S16-Oc10367							X	X	X		X
	TP21_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10368								X	X		X
	TP22_0-0.1	Oct 10, 2016		Soil	S16-Oc10369						X	X	X	X		X
	TP23_0-0.1	Oct 10, 2016		Soil	S16-Oc10370							X		X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	
Address:	Level 1, 50 Margaret St	**Report #:**	519296
	Sydney	**Phone:**	02 8245 0300
	NSW 2000	**Fax:**	
Project Name:	CADDENS DSI		
Project ID:	52116		

Received:	Oct 11, 2016 5:20 PM
Due:	Oct 18, 2016
Priority:	5 Day
Contact Name:	Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP23_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10371							X	X	X		X
	TP24_0-0.1	Oct 10, 2016		Soil	S16-Oc10372								X	X		X
	TP25_0-0.1	Oct 10, 2016		Soil	S16-Oc10373							X	X	X		X
	TP26_0-0.1	Oct 10, 2016		Soil	S16-Oc10374		X				X	X	X	X		X
	TP26_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10375							X	X	X		X
	TP27_0-0.1	Oct 10, 2016		Soil	S16-Oc10376						X		X	X		X
	TP27_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10377							X		X		
	TP28_0-0.1	Oct 10, 2016		Soil	S16-Oc10378						X	X	X	X		X
	TP29_0-0.1	Oct 10, 2016		Soil	S16-Oc10379		X				X	X	X	X		X
	TP30_0-0.1	Oct 10, 2016		Soil	S16-Oc10380							X	X	X		X
	TP31_0-0.1	Oct 10, 2016		Soil	S16-Oc10381						X		X	X		X
	TP32_0-0.1	Oct 10, 2016		Soil	S16-Oc10382							X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP32_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10383	X				X					X	X	
	TP33_0-0.1	Oct 10, 2016		Soil	S16-Oc10384			X									
	ACM01	Oct 10, 2016		Other	S16-Oc10385		X										
	QC01	Oct 10, 2016		Soil	S16-Oc10386								X	X	X		X
	QC02	Oct 10, 2016		Soil	S16-Oc10387								X	X	X		X
	QC03	Oct 10, 2016		Soil	S16-Oc10388		X				X	X	X	X	X		X
	RINS	Oct 10, 2016		Water	S16-Oc10389						X	X	X	X			X
	TS	Oct 10, 2016		Water	S16-Oc10390									X			
	TB	Oct 10, 2016		Water	S16-Oc10391									X			
	SS01	Oct 10, 2016		Soil	S16-Oc10392							X			X		
	SS02_VEGE PATCH	Oct 10, 2016		Soil	S16-Oc10393						X	X	X		X		

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	SS03_DRAIN	Oct 10, 2016		Soil	S16-Oc10394							X		X		
	TP07_0.0-0.1	Oct 10, 2016		Soil	S16-Oc10395							X	X	X		X
	TP01_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10396			X								
	TP04_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10397			X								
	TP05_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10398			X								
	TP09_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10399			X								
	TP10_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10400			X								
	TP12_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10401			X								
	TP15_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10402			X								
	TP20_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10403			X								
	TP22_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10404			X								
	TP24_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10405			X								

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP25_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10406			X								
	TP28_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10407			X								
	TP29_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10408			X								
	TP30_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10409			X								
	TP31_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10410			X								
	TP33_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10411		X									
	TP26_0.9-1.0	Oct 10, 2016		Soil	S16-Oc10412			X								
	TP06_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10413			X								
	TP15_0.1	Oct 10, 2016		Soil	S16-Oc10414			X								
Test Counts					4	6	3	18	4	15	17	40	45	52	4	43

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
% Clay	%	< 1			1	Pass	
Method Blank							
Ion Exchange Properties							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	97			70-130	Pass	
TRH C10-C14	%	109			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	
Toluene	%	99			70-130	Pass	
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	95			70-130	Pass	
Xylenes - Total	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	120			70-130	Pass	
TRH C6-C10	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	106			70-130	Pass	
Benz(a)anthracene	%	99			70-130	Pass	
Benzo(a)pyrene	%	104			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Benzo(k)fluoranthene	%	125			70-130	Pass	
Chrysene	%	112			70-130	Pass	
Dibenz(a.h)anthracene	%	74			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoranthene	%	107			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	70			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	108			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	124			70-130	Pass	
4.4'-DDE	%	123			70-130	Pass	
4.4'-DDT	%	113			70-130	Pass	
a-BHC	%	108			70-130	Pass	
Aldrin	%	109			70-130	Pass	
b-BHC	%	108			70-130	Pass	
d-BHC	%	125			70-130	Pass	
Dieldrin	%	123			70-130	Pass	
Endosulfan I	%	120			70-130	Pass	
Endosulfan II	%	128			70-130	Pass	
Endosulfan sulphate	%	108			70-130	Pass	
Endrin	%	116			70-130	Pass	
Endrin aldehyde	%	101			70-130	Pass	
Endrin ketone	%	115			70-130	Pass	
g-BHC (Lindane)	%	114			70-130	Pass	
Heptachlor	%	112			70-130	Pass	
Heptachlor epoxide	%	126			70-130	Pass	
Hexachlorobenzene	%	111			70-130	Pass	
Methoxychlor	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	108			70-130	Pass	
LCS - % Recovery							
% Clay	%	105			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	104			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	105			80-120	Pass	
Mercury	%	115			75-125	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	111			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Oc10338	CP	%	104			75-125	Pass	
Cadmium	S16-Oc10338	CP	%	100			75-125	Pass	
Chromium	S16-Oc10338	CP	%	98			75-125	Pass	
Copper	S16-Oc10338	CP	%	114			75-125	Pass	
Lead	S16-Oc10338	CP	%	100			75-125	Pass	
Mercury	S16-Oc10338	CP	%	113			70-130	Pass	
Nickel	S16-Oc10338	CP	%	96			75-125	Pass	
Zinc	S16-Oc10338	CP	%	104			75-125	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S16-Oc10346	CP	%	126			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Oc10346	CP	%	124			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Oc10351	CP	%	102			75-125	Pass	
Cadmium	S16-Oc10351	CP	%	100			75-125	Pass	
Chromium	S16-Oc10351	CP	%	96			75-125	Pass	
Copper	S16-Oc10351	CP	%	109			75-125	Pass	
Lead	S16-Oc10351	CP	%	99			75-125	Pass	
Mercury	S16-Oc10351	CP	%	115			70-130	Pass	
Nickel	S16-Oc10351	CP	%	110			75-125	Pass	
Zinc	S16-Oc10351	CP	%	118			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Oc10352	CP	%	104			70-130	Pass	
Acenaphthylene	S16-Oc10352	CP	%	109			70-130	Pass	
Anthracene	S16-Oc10352	CP	%	112			70-130	Pass	
Benz(a)anthracene	S16-Oc10352	CP	%	103			70-130	Pass	
Benzo(a)pyrene	S16-Oc10352	CP	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Oc10352	CP	%	111			70-130	Pass	
Benzo(g.h.i)perylene	S16-Oc10352	CP	%	70			70-130	Pass	
Benzo(k)fluoranthene	S16-Oc10352	CP	%	123			70-130	Pass	
Chrysene	S16-Oc10352	CP	%	121			70-130	Pass	
Dibenz(a.h)anthracene	S16-Oc10352	CP	%	84			70-130	Pass	
Fluoranthene	S16-Oc10352	CP	%	118			70-130	Pass	
Fluorene	S16-Oc10352	CP	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S16-Oc10352	CP	%	74			70-130	Pass	
Naphthalene	S16-Oc10352	CP	%	98			70-130	Pass	
Phenanthrene	S16-Oc10352	CP	%	101			70-130	Pass	
Pyrene	S16-Oc10352	CP	%	119			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S16-Oc10359	CP	%	108			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Oc10359	CP	%	108			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Oc10367	CP	%	105			75-125	Pass	
Cadmium	S16-Oc10367	CP	%	105			75-125	Pass	
Chromium	S16-Oc10367	CP	%	105			75-125	Pass	
Copper	S16-Oc10367	CP	%	119			75-125	Pass	
Lead	S16-Oc10367	CP	%	98			75-125	Pass	
Mercury	S16-Oc10367	CP	%	117			70-130	Pass	
Nickel	S16-Oc10367	CP	%	101			75-125	Pass	
Zinc	S16-Oc10367	CP	%	89			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S16-Oc10369	CP	%	110			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	S16-Oc10369	CP	%	116			70-130	Pass	
Toluene	S16-Oc10369	CP	%	114			70-130	Pass	
Ethylbenzene	S16-Oc10369	CP	%	115			70-130	Pass	
m&p-Xylenes	S16-Oc10369	CP	%	113			70-130	Pass	
o-Xylene	S16-Oc10369	CP	%	113			70-130	Pass	
Xylenes - Total	S16-Oc10369	CP	%	113			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S16-Oc10369	CP	%	126			70-130	Pass	
TRH C6-C10	S16-Oc10369	CP	%	98			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	S16-Oc10369	CP	%	110			70-130	Pass	
4.4'-DDE	S16-Oc10369	CP	%	130			70-130	Pass	
4.4'-DDT	S16-Oc10369	CP	%	114			70-130	Pass	
a-BHC	S16-Oc10369	CP	%	122			70-130	Pass	
Aldrin	S16-Oc10369	CP	%	112			70-130	Pass	
b-BHC	S16-Oc10369	CP	%	129			70-130	Pass	
d-BHC	S16-Oc10369	CP	%	126			70-130	Pass	
Dieldrin	S16-Oc10369	CP	%	113			70-130	Pass	
Endosulfan I	S16-Oc10369	CP	%	122			70-130	Pass	
Endosulfan II	S16-Oc10369	CP	%	105			70-130	Pass	
Endosulfan sulphate	S16-Oc10369	CP	%	115			70-130	Pass	
Endrin	S16-Oc10369	CP	%	107			70-130	Pass	
Endrin aldehyde	S16-Oc10369	CP	%	125			70-130	Pass	
Endrin ketone	S16-Oc10369	CP	%	123			70-130	Pass	
g-BHC (Lindane)	S16-Oc10369	CP	%	122			70-130	Pass	
Heptachlor	S16-Oc10369	CP	%	121			70-130	Pass	
Heptachlor epoxide	S16-Oc10369	CP	%	115			70-130	Pass	
Hexachlorobenzene	S16-Oc10369	CP	%	124			70-130	Pass	
Methoxychlor	S16-Oc10369	CP	%	108			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S16-Oc10372	CP	%	130			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Oc10372	CP	%	122			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Oc10381	CP	%	98			75-125	Pass	
Cadmium	S16-Oc10381	CP	%	103			75-125	Pass	
Chromium	S16-Oc10381	CP	%	108			75-125	Pass	
Copper	S16-Oc10381	CP	%	122			75-125	Pass	
Lead	S16-Oc10381	CP	%	99			75-125	Pass	
Nickel	S16-Oc10381	CP	%	102			75-125	Pass	
Zinc	S16-Oc10381	CP	%	106			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S16-Oc10386	CP	%	105			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Oc10386	CP	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M16-Oc08735	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M16-Oc08735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M16-Oc08735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M16-Oc08735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M16-Oc08735	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M16-Oc08735	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M16-Oc08735	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M16-Oc08735	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M16-Oc08735	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (1:5 Aqueous extract)	S16-Oc10288	NCP	pH Units	6.8	6.8	pass	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10337	CP	mg/kg	13	13	<1	30%	Pass	
Cadmium	S16-Oc10337	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10337	CP	mg/kg	23	23	<1	30%	Pass	
Copper	S16-Oc10337	CP	mg/kg	36	36	<1	30%	Pass	
Lead	S16-Oc10337	CP	mg/kg	20	20	1.0	30%	Pass	
Nickel	S16-Oc10337	CP	mg/kg	23	23	1.0	30%	Pass	
Zinc	S16-Oc10337	CP	mg/kg	56	58	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10338	CP	mg/kg	8.7	8.4	4.0	30%	Pass	
Cadmium	S16-Oc10338	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10338	CP	mg/kg	21	22	2.0	30%	Pass	
Copper	S16-Oc10338	CP	mg/kg	37	37	<1	30%	Pass	
Lead	S16-Oc10338	CP	mg/kg	17	17	1.0	30%	Pass	
Mercury	S16-Oc10338	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S16-Oc10338	CP	mg/kg	23	23	3.0	30%	Pass	
Zinc	S16-Oc10338	CP	mg/kg	57	59	3.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Oc10340	CP	%	17	17	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S16-Oc10345	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Oc10345	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Oc10345	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Oc10345	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Oc10345	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Oc10345	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S16-Oc10350	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Oc10350	CP	%	14	14	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10350	CP	mg/kg	11	9.6	11	30%	Pass	
Cadmium	S16-Oc10350	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10350	CP	mg/kg	26	25	4.0	30%	Pass	
Copper	S16-Oc10350	CP	mg/kg	37	39	5.0	30%	Pass	
Lead	S16-Oc10350	CP	mg/kg	23	25	8.0	30%	Pass	
Nickel	S16-Oc10350	CP	mg/kg	28	32	12	30%	Pass	
Zinc	S16-Oc10350	CP	mg/kg	72	83	14	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10351	CP	mg/kg	9.7	9.7	<1	30%	Pass	
Cadmium	S16-Oc10351	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10351	CP	mg/kg	24	24	<1	30%	Pass	
Copper	S16-Oc10351	CP	mg/kg	37	37	<1	30%	Pass	
Lead	S16-Oc10351	CP	mg/kg	21	20	4.0	30%	Pass	
Mercury	S16-Oc10351	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S16-Oc10351	CP	mg/kg	29	29	<1	30%	Pass	
Zinc	S16-Oc10351	CP	mg/kg	72	72	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S16-Oc10358	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Oc10358	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Oc10358	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Oc10358	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Oc10358	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Oc10358	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Oc10362	CP	%	13	12	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	S16-Oc10363	CP	%	33	35	7.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10366	CP	mg/kg	50	60	18	30%	Pass	
Cadmium	S16-Oc10366	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10366	CP	mg/kg	30	33	10	30%	Pass	
Copper	S16-Oc10366	CP	mg/kg	45	49	9.0	30%	Pass	
Lead	S16-Oc10366	CP	mg/kg	9.9	9.9	<1	30%	Pass	
Nickel	S16-Oc10366	CP	mg/kg	6.4	6.8	6.0	30%	Pass	
Zinc	S16-Oc10366	CP	mg/kg	82	95	15	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S16-Oc10367	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S16-Oc10367	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S16-Oc10367	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10367	CP	mg/kg	9.2	9.0	2.0	30%	Pass	
Cadmium	S16-Oc10367	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10367	CP	mg/kg	24	24	2.0	30%	Pass	
Copper	S16-Oc10367	CP	mg/kg	25	25	1.0	30%	Pass	
Lead	S16-Oc10367	CP	mg/kg	21	21	2.0	30%	Pass	
Mercury	S16-Oc10367	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S16-Oc10367	CP	mg/kg	18	19	2.0	30%	Pass	
Zinc	S16-Oc10367	CP	mg/kg	44	46	5.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S16-Oc10371	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Oc10371	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Oc10371	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Oc10371	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Oc10371	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Oc10371	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Oc10372	CP	%	18	18	4.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10380	CP	mg/kg	8.7	7.4	16	30%	Pass	
Cadmium	S16-Oc10380	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10380	CP	mg/kg	23	20	16	30%	Pass	
Copper	S16-Oc10380	CP	mg/kg	31	24	26	30%	Pass	
Lead	S16-Oc10380	CP	mg/kg	22	19	15	30%	Pass	
Nickel	S16-Oc10380	CP	mg/kg	24	20	17	30%	Pass	
Zinc	S16-Oc10380	CP	mg/kg	67	60	12	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S16-Oc10381	CP	mg/kg	20	19	1.0	30%	Pass	
Cadmium	S16-Oc10381	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S16-Oc10381	CP	mg/kg	25	25	<1	30%	Pass	
Copper	S16-Oc10381	CP	mg/kg	31	32	1.0	30%	Pass	
Lead	S16-Oc10381	CP	mg/kg	19	19	<1	30%	Pass	
Mercury	S16-Oc10381	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S16-Oc10381	CP	mg/kg	26	26	1.0	30%	Pass	
Zinc	S16-Oc10381	CP	mg/kg	62	62	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S16-Oc10382	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Oc10382	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Oc10382	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Oc10382	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Oc10382	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Oc10382	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Oc10382	CP	%	13	13	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C)	S16-Oc10383	CP	uS/cm	22	20	9.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Alex Petridis	Senior Analyst-Organic (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Joseph Edouard	Senior Analyst-Organic (VIC)
Rhys Thomas	Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

JBS & G Australia (NSW & WA) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: **Rohan Hammond**

Report **519296-W**
Project name CADDENS DSI
Project ID 52116
Received Date Oct 11, 2016

Client Sample ID			**RINS**	**TS**	**TB**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S16-Oc10389**	**S16-Oc10390**	**S16-Oc10391**
Date Sampled			**Oct 10, 2016**	**Oct 10, 2016**	**Oct 10, 2016**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	-	-
TRH C10-C14	0.05	mg/L	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	-	-
TRH C10-36 (Total)	0.1	mg/L	< 0.1	-	-
BTEX					
Benzene	0.001	mg/L	< 0.001	84%	< 0.001
Toluene	0.001	mg/L	< 0.001	79%	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	87%	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	78%	< 0.002
o-Xylene	0.001	mg/L	< 0.001	80%	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	79%	< 0.003
4-Bromofluorobenzene (surr.)	1	%	104	97	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-
TRH C6-C10	0.02	mg/L	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	-
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	-	-
Phenanthrene	0.001	mg/L	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	-	-

Client Sample ID			RINS	TS	TB
Sample Matrix			Water	Water	Water
Eurofins | mgt Sample No.			S16-Oc10389	S16-Oc10390	S16-Oc10391
Date Sampled			Oct 10, 2016	Oct 10, 2016	Oct 10, 2016
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Total PAH*	0.001	mg/L	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	53	-	-
p-Terphenyl-d14 (surr.)	1	%	71	-	-
Organochlorine Pesticides					
Chlordanes - Total	0.001	mg/L	< 0.001	-	-
4.4'-DDD	0.0001	mg/L	< 0.0001	-	-
4.4'-DDE	0.0001	mg/L	< 0.0001	-	-
4.4'-DDT	0.0001	mg/L	< 0.0001	-	-
a-BHC	0.0001	mg/L	< 0.0001	-	-
Aldrin	0.0001	mg/L	< 0.0001	-	-
b-BHC	0.0001	mg/L	< 0.0001	-	-
d-BHC	0.0001	mg/L	< 0.0001	-	-
Dieldrin	0.0001	mg/L	< 0.0001	-	-
Endosulfan I	0.0001	mg/L	< 0.0001	-	-
Endosulfan II	0.0001	mg/L	< 0.0001	-	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	-	-
Endrin	0.0001	mg/L	< 0.0001	-	-
Endrin aldehyde	0.0001	mg/L	< 0.0001	-	-
Endrin ketone	0.0001	mg/L	< 0.0001	-	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	-	-
Heptachlor	0.0001	mg/L	< 0.0001	-	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	-	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	-	-
Methoxychlor	0.0001	mg/L	< 0.0001	-	-
Toxaphene	0.01	mg/L	< 0.01	-	-
Dibutylchlorendate (surr.)	1	%	127	-	-
Tetrachloro-m-xylene (surr.)	1	%	76	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	-	-
Chromium	0.001	mg/L	< 0.001	-	-
Copper	0.001	mg/L	< 0.001	-	-
Lead	0.001	mg/L	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	-	-
Nickel	0.001	mg/L	0.001	-	-
Zinc	0.005	mg/L	< 0.005	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Oct 13, 2016	7 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 12, 2016	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 13, 2016	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
BTEX	Melbourne	Oct 12, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Oct 13, 2016	7 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Organochlorine Pesticides	Melbourne	Oct 13, 2016	7 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Metals M8	Melbourne	Oct 12, 2016	28 Days
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN : 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:**	519296
		Phone:	02 8245 0300
		Fax:	
Project Name:	CADDENS DSI		
Project ID:	52116		

Received:	Oct 11, 2016 5:20 PM
Due:	Oct 18, 2016
Priority:	5 Day
Contact Name:	Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066
ABN : 50 005 085 521 Telephone: +61 2 9900 8400 Facsimile: +61 2 9420 2977

Sample Detail	% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271				X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217		X	X									
Brisbane Laboratory - NATA Site # 20794	X											
External Laboratory												

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID											
	TP01_0-0.1	Oct 10, 2016		Soil	S16-Oc10337	X				X			X	X	X	X	X
	TP02_0-0.1	Oct 10, 2016		Soil	S16-Oc10338							X	X	X	X		X
	TP02_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10339						X				X		
	TP03_0-0.1	Oct 10, 2016		Soil	S16-Oc10340								X	X	X		X
	TP03_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10341								X	X	X		X
	TP04_0-0.1	Oct 10, 2016		Soil	S16-Oc10342							X	X	X	X		X
	TP05_0-0.1	Oct 10, 2016		Soil	S16-Oc10343						X		X	X	X		X
	TP06_0-0.1	Oct 10, 2016		Soil	S16-Oc10344							X	X	X	X		X
	TP07_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10345									X	X		X
	TP08_0-0.1	Oct 10, 2016		Soil	S16-Oc10346							X	X	X	X		X

Date Reported: Oct 18, 2016

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
External Laboratory																	
	TP08_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10347						X				X		
	TP09_0-0.1	Oct 10, 2016		Soil	S16-Oc10348						X		X	X	X		X
	TP10_0-0.1	Oct 10, 2016		Soil	S16-Oc10349							X	X	X	X		X
	TP11_0-0.1	Oct 10, 2016		Soil	S16-Oc10350						X		X	X	X		X
	TP11_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10351	X				X			X	X	X	X	X
	TP12_0-0.1	Oct 10, 2016		Soil	S16-Oc10352						X	X	X	X	X		X
	TP13_0-0.1	Oct 10, 2016		Soil	S16-Oc10353		X										
	TP13_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10354			X									
	TP14_0-0.1	Oct 10, 2016		Soil	S16-Oc10355								X	X	X		X
	TP14_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10356								X	X	X		X
	TP15_0-0.1	Oct 10, 2016		Soil	S16-Oc10357							X	X	X	X		X
	TP16_0-0.1	Oct 10, 2016		Soil	S16-Oc10358		X				X		X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP16_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10359								X	X		X
	TP17_0-0.1	Oct 10, 2016		Soil	S16-Oc10360								X	X		X
	TP17_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10361							X		X		
	TP18_0-0.1	Oct 10, 2016		Soil	S16-Oc10362							X	X	X		X
	TP18_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10363	X				X				X	X	
	TP19_0-0.1	Oct 10, 2016		Soil	S16-Oc10364						X		X	X		X
	TP19_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10365							X		X		
	TP20_0-0.1	Oct 10, 2016		Soil	S16-Oc10366							X	X	X		X
	TP21_0-0.1	Oct 10, 2016		Soil	S16-Oc10367							X	X	X		X
	TP21_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10368								X	X		X
	TP22_0-0.1	Oct 10, 2016		Soil	S16-Oc10369						X	X	X	X		X
	TP23_0-0.1	Oct 10, 2016		Soil	S16-Oc10370							X		X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	
Address:	Level 1, 50 Margaret St	**Report #:**	519296
	Sydney	**Phone:**	02 8245 0300
	NSW 2000	**Fax:**	
Project Name:	CADDENS DSI		
Project ID:	52116		

Received:	Oct 11, 2016 5:20 PM
Due:	Oct 18, 2016
Priority:	5 Day
Contact Name:	Rohan Hammond

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP23_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10371							X	X	X		X
	TP24_0-0.1	Oct 10, 2016		Soil	S16-Oc10372								X	X		X
	TP25_0-0.1	Oct 10, 2016		Soil	S16-Oc10373							X	X	X		X
	TP26_0-0.1	Oct 10, 2016		Soil	S16-Oc10374		X				X	X	X	X		X
	TP26_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10375							X	X	X		X
	TP27_0-0.1	Oct 10, 2016		Soil	S16-Oc10376						X		X	X		X
	TP27_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10377							X		X		
	TP28_0-0.1	Oct 10, 2016		Soil	S16-Oc10378						X	X	X	X		X
	TP29_0-0.1	Oct 10, 2016		Soil	S16-Oc10379		X				X	X	X	X		X
	TP30_0-0.1	Oct 10, 2016		Soil	S16-Oc10380							X	X	X		X
	TP31_0-0.1	Oct 10, 2016		Soil	S16-Oc10381						X		X	X		X
	TP32_0-0.1	Oct 10, 2016		Soil	S16-Oc10382							X	X	X		X

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au
ABN 50 005 085 521

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP32_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10383	X				X					X	X	
	TP33_0-0.1	Oct 10, 2016		Soil	S16-Oc10384			X									
	ACM01	Oct 10, 2016		Other	S16-Oc10385		X										
	QC01	Oct 10, 2016		Soil	S16-Oc10386								X	X	X		X
	QC02	Oct 10, 2016		Soil	S16-Oc10387								X	X	X		X
	QC03	Oct 10, 2016		Soil	S16-Oc10388		X				X	X	X	X	X		X
	RINS	Oct 10, 2016		Water	S16-Oc10389						X	X	X	X			X
	TS	Oct 10, 2016		Water	S16-Oc10390									X			
	TB	Oct 10, 2016		Water	S16-Oc10391									X			
	SS01	Oct 10, 2016		Soil	S16-Oc10392							X			X		
	SS02_VEGE PATCH	Oct 10, 2016		Soil	S16-Oc10393						X	X	X		X		

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	SS03_DRAIN	Oct 10, 2016		Soil	S16-Oc10394							X		X		
	TP07_0.0-0.1	Oct 10, 2016		Soil	S16-Oc10395							X	X	X		X
	TP01_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10396			X								
	TP04_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10397			X								
	TP05_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10398			X								
	TP09_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10399			X								
	TP10_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10400			X								
	TP12_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10401			X								
	TP15_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10402			X								
	TP20_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10403			X								
	TP22_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10404			X								
	TP24_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10405			X								

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

ABN 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Company Name:	JBS & G Australia (NSW & WA) P/L	**Order No.:**	**Received:** Oct 11, 2016 5:20 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:** 519296 **Phone:** 02 8245 0300 **Fax:**	**Due:** Oct 18, 2016 **Priority:** 5 Day **Contact Name:** Rohan Hammond
Project Name:	CADDENS DSI		
Project ID:	52116		

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail					% Clay	Asbestos Absence /Presence	CANCELLED	HOLD	pH (1:5 Aqueous extract)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X									
Brisbane Laboratory - NATA Site # 20794					X											
External Laboratory																
	TP25_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10406			X								
	TP28_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10407			X								
	TP29_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10408			X								
	TP30_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10409			X								
	TP31_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10410			X								
	TP33_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10411		X									
	TP26_0.9-1.0	Oct 10, 2016		Soil	S16-Oc10412			X								
	TP06_0.2-0.3	Oct 10, 2016		Soil	S16-Oc10413			X								
	TP15_0.1	Oct 10, 2016		Soil	S16-Oc10414			X								
Test Counts					4	6	3	18	4	15	17	40	45	52	4	43

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	92			70-130	Pass	
TRH C10-C14	%	124			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	76			70-130	Pass	
Toluene	%	80			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	125			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	70			70-130	Pass	
Benzo(a)pyrene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	101			70-130	Pass	
Benzo(g.h.i)perylene	%	70			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	75			70-130	Pass	
Dibenz(a.h)anthracene	%	75			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	70			70-130	Pass	
Naphthalene	%	80			70-130	Pass	
Phenanthrene	%	84			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	%	76			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	91			70-130	Pass	
4.4'-DDE	%	75			70-130	Pass	
4.4'-DDT	%	117			70-130	Pass	
a-BHC	%	96			70-130	Pass	
Aldrin	%	108			70-130	Pass	
b-BHC	%	116			70-130	Pass	
d-BHC	%	127			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	107			70-130	Pass	
Endosulfan sulphate	%	115			70-130	Pass	
Endrin	%	101			70-130	Pass	
Endrin aldehyde	%	76			70-130	Pass	
Endrin ketone	%	93			70-130	Pass	
g-BHC (Lindane)	%	125			70-130	Pass	
Heptachlor	%	122			70-130	Pass	
Heptachlor epoxide	%	125			70-130	Pass	
Hexachlorobenzene	%	112			70-130	Pass	
Methoxychlor	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	123			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	89			80-120	Pass	
Cadmium	%	85			80-120	Pass	
Chromium	%	84			80-120	Pass	
Copper	%	85			80-120	Pass	
Lead	%	88			80-120	Pass	
Mercury	%	90			75-125	Pass	
Nickel	%	86			80-120	Pass	
Zinc	%	86			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M16-Oc09766	NCP	%	73			70-130	Pass	
TRH C10-C14	M16-Oc08670	NCP	%	74			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M16-Oc09766	NCP	%	86			70-130	Pass	
Toluene	M16-Oc09766	NCP	%	83			70-130	Pass	
Ethylbenzene	M16-Oc09766	NCP	%	95			70-130	Pass	
m&p-Xylenes	M16-Oc09766	NCP	%	83			70-130	Pass	
o-Xylene	M16-Oc09766	NCP	%	89			70-130	Pass	
Xylenes - Total	M16-Oc09766	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M16-Oc09766	NCP	%	125			70-130	Pass	
TRH C6-C10	M16-Oc09766	NCP	%	71			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	M16-Oc04549	NCP	%	0.0000000			70-130	Fail	
4.4'-DDD	M16-Oc08533	NCP	%	114			70-130	Pass	
4.4'-DDE	M16-Oc08533	NCP	%	99			70-130	Pass	
4.4'-DDT	B16-Oc07593	NCP	%	120			70-130	Pass	
a-BHC	M16-Oc08533	NCP	%	92			70-130	Pass	
Aldrin	M16-Oc08533	NCP	%	120			70-130	Pass	
b-BHC	M16-Oc08533	NCP	%	111			70-130	Pass	
d-BHC	B16-Oc07593	NCP	%	72			70-130	Pass	
Dieldrin	M16-Oc08533	NCP	%	115			70-130	Pass	
Endosulfan I	B16-Oc07593	NCP	%	85			70-130	Pass	
Endosulfan II	M16-Oc04549	NCP	%	0.0000000			70-130	Fail	
Endosulfan sulphate	M16-Oc08533	NCP	%	76			70-130	Pass	
Endrin	M16-Oc04549	NCP	%	0.0000000			70-130	Fail	
Endrin aldehyde	M16-Oc08533	NCP	%	106			70-130	Pass	
Endrin ketone	B16-Oc07593	NCP	%	102			70-130	Pass	
g-BHC (Lindane)	M16-Oc08533	NCP	%	112			70-130	Pass	
Heptachlor	M16-Oc04549	NCP	%	0.0000000			70-130	Fail	
Heptachlor epoxide	B16-Oc07593	NCP	%	125			70-130	Pass	
Hexachlorobenzene	M16-Oc08533	NCP	%	115			70-130	Pass	
Methoxychlor	M16-Oc04549	NCP	%	0.0000000			70-130	Fail	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M16-Oc08670	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M16-Oc09412	NCP	%	91			75-125	Pass	
Cadmium	M16-Oc09412	NCP	%	83			75-125	Pass	
Chromium	M16-Oc09412	NCP	%	84			75-125	Pass	
Copper	M16-Oc09412	NCP	%	83			75-125	Pass	
Lead	M16-Oc09412	NCP	%	86			75-125	Pass	
Mercury	M16-Oc09412	NCP	%	87			70-130	Pass	
Nickel	M16-Oc09412	NCP	%	84			75-125	Pass	
Zinc	M16-Oc09412	NCP	%	83			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M16-Oc09627	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M16-Oc08669	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M16-Oc08669	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M16-Oc08669	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M16-Oc09627	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M16-Oc09627	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M16-Oc09627	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M16-Oc09627	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M16-Oc09627	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	M16-Oc09627	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M16-Oc09627	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M16-Oc09627	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M16-Oc08532	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4.4'-DDD	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDE	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDT	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M16-Oc08532	NCP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass	
g-BHC (Lindane)	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M16-Oc08532	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Toxaphene	M16-Oc08532	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M16-Oc08669	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M16-Oc08669	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M16-Oc08669	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M16-Oc09412	NCP	mg/L	0.002	0.002	<1	30%	Pass	
Cadmium	M16-Oc09412	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M16-Oc09412	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M16-Oc09412	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M16-Oc09412	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M16-Oc09412	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M16-Oc09412	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M16-Oc09412	NCP	mg/L	0.027	0.025	7.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Alex Petridis	Senior Analyst-Organic (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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

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

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

CERTIFICATE OF ANALYSIS 155048

Client:
JBS & G (NSW & WA) Pty Ltd
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention: R Hammond, S Morinali

Sample log in details:

Your Reference:	**52116, Caddens DSI**		
No. of samples:	3 Soils		
Date samples received / completed instructions received	11/10/16	/	11/10/16

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	18/10/16	/	18/10/16
Date of Preliminary Report:	Not Issued		

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025 - Testing **Tests not covered by NATA are denoted with *.**

Results Approved By:

David Springer
General Manager

vTRH(C6-C10)/BTEXN in Soil				
Our Reference:	UNITS	155048-1	155048-2	155048-3
Your Reference	----------	QC01A	QC02A	QC03A
	-			
Date Sampled	----------	10/10/2016	10/10/2016	10/10/2016
Type of sample		Soil	Soil	Soil
Date extracted	-	13/10/2016	13/10/2016	13/10/2016
Date analysed	-	14/10/2016	14/10/2016	14/10/2016
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	82	84	79

svTRH (C10-C40) in Soil				
Our Reference:	UNITS	155048-1	155048-2	155048-3
Your Reference	----------	QC01A	QC02A	QC03A
	-			
Date Sampled	----------	10/10/2016	10/10/2016	10/10/2016
Type of sample		Soil	Soil	Soil
Date extracted	-	13/10/2016	13/10/2016	13/10/2016
Date analysed	-	13/10/2016	13/10/2016	13/10/2016
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100
TRH >C_{10}-C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C_{16}-C_{34}	mg/kg	<100	<100	<100
TRH >C_{34}-C_{40}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	99	100	98

PAHs in Soil		
Our Reference:	UNITS	155048-3
Your Reference	----------	QC03A
	-	
Date Sampled	----------	10/10/2016
Type of sample		Soil
Date extracted	-	13/10/2016
Date analysed	-	13/10/2016
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Total Positive PAHs	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	78

Organochlorine Pesticides in soil		
Our Reference:	UNITS	155048-3
Your Reference	----------	QC03A
	-	
Date Sampled	----------	10/10/2016
Type of sample		Soil
Date extracted	-	13/10/2016
Date analysed	-	15/10/2016
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	0.2
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCMX	%	91

Acid Extractable metals in soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- - ---------- 	155048-1 QC01A 10/10/2016 Soil	155048-2 QC02A 10/10/2016 Soil	155048-3 QC03A 10/10/2016 Soil
Date prepared	-	13/10/2016	13/10/2016	13/10/2016
Date analysed	-	13/10/2016	13/10/2016	13/10/2016
Arsenic	mg/kg	5	8	8
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	11	25	36
Copper	mg/kg	29	28	27
Lead	mg/kg	13	20	19
Mercury	mg/kg	<0.1	<0.1	<0.1
Nickel	mg/kg	15	23	27
Zinc	mg/kg	42	56	65

Moisture Our Reference: Your Reference	UNITS ----------	155048-1 QC01A	155048-2 QC02A	155048-3 QC03A
Date Sampled	- ----------	10/10/2016	10/10/2016	10/10/2016
Type of sample		Soil	Soil	Soil
Date prepared	-	13/10/2016	13/10/2016	13/10/2016
Date analysed	-	14/10/2016	14/10/2016	14/10/2016
Moisture	%	11	14	14

Asbestos ID - soils		
Our Reference:	UNITS	155048-3
Your Reference	----------	QC03A
	-	
Date Sampled	----------	10/10/2016
Type of sample		Soil
Date analysed	-	17/10/2016
Sample mass tested	g	Approx 75g
Sample Description	-	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Date analysed	-			14/10/2016	[NT]	[NT]	LCS-5	14/10/2016
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	101%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	101%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-5	105%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-5	101%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	99%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-5	99%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	105%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	90	[NT]	[NT]	LCS-5	90%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Date analysed	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	94%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	95%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	82%
TRH >C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	94%
TRH >C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	95%
TRH >C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	82%
Surrogate o-Terphenyl	%		Org-003	102	[NT]	[NT]	LCS-5	73%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Date analysed	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	103%
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	109%
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	129%
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	117%
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	LCS-5	118%
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(b,j +k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NR]	[NR]

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	LCS-5	110%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012	100	[NT]	[NT]	LCS-5	100%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Date analysed	-			15/10/2016	[NT]	[NT]	LCS-5	15/10/2016
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	82%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	98%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	96%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	103%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	98%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	100%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	103%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	96%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	99%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-5	70%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	87	[NT]	[NT]	LCS-5	106%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Date analysed	-			13/10/2016	[NT]	[NT]	LCS-5	13/10/2016
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	LCS-5	116%
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	LCS-5	105%
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	113%
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	109%
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	107%
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	LCS-5	88%
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	104%
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	LCS-5	111%

Report Comments:

Asbestos: Excessive sample volume was provided for asbestos analysis. A portion of the supplied sample was sub-sampled according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g (50mL) of sample in its own container as per AS4964-2004.

Note: Sample 155048-3 were sub-sampled from bag provided by the client.

Asbestos ID was analysed by Approved Identifier: Paul Ching

Asbestos ID was authorised by Approved Signatory: Paul Ching

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

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

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.
Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.
Spikes for Physical and Aggregate Tests are not applicable.
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

C8154

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 52116
PROJECT NAME: Caddens DSI
DATE NEEDED BY: Std
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) RHammond@jbsg.com.au; (3) SMostafali@jbsg.com.au

LABORATORY BATCH NO.:
SAMPLERS: RM
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	PAHs	OCPs	TRH/BTEX	Heavy Metals	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
1 QC01A	Soil	10/10/16	-	250ml Jar/Ziplock	NA				X	X			
2 QC02A	↓	↓	↓	↓	↓				X	X			
3 QC03A	↓	↓	↓	↓	↓	X	X	X	X	X	X		

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

Job No: 155048
Date Received: 11/10
Time Received: 14:30
Received by: AB
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Rehan H DATE: 11/10/16 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: AB DATE: 11/10 14:30 OF: ELS	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

Appendix G Quality Assurance / Quality Control

G.1 QA/QC Results

Analysis of the Quality Analysis / Quality Control (QA/QC) has thus been undertaken for analytical results from the site. QA/QC results for soil samples collected at the site are summarised in **Table G.1** and discussed in **Section G.2**. Detailed laboratory QA/QC results are included as part of the laboratory reports in **Appendix F**, and JBS&G's review of laboratory supplied of Quality Assurance/ Quality Control data is presented in **Appendix J.**

Table G.1: QA/QC Results Summary

Data Quality Indicator	Results	DQI met?
Precision		
Soil Blind duplicates (intra laboratory)	0-33 % RPD Intra laboratory samples were analysed at a rate greater than 1 in 20 samples.	Yes
Soil Blind triplicates (inter laboratory)	0-58% RPD Intra laboratory samples were analysed at a rate greater than 1 in 20 samples.	Partial[1]
Laboratory duplicates	0-26% RPD Intra laboratory samples were analysed at a rate of 1 in 20 samples.	Yes
Accuracy		
Surrogate spikes	50- 149% Recovery Surrogate spikes were completed for all organic samples	Partial[1]
Laboratory Control Samples	70-128% Recovery Laboratory control samples were completed for all organic and metals samples	Yes
Matrix spikes	70-130% Recovery Matrix spikes were completed for all organic and metals samples	Yes
Representativeness		
Sampling appropriate for media and analytes	All sampling conducted in accordance with JBS&G procedures	Yes
Laboratory blanks	<LOR	Yes
Samples extracted and analysed within holding times.	All samples were extracted and analysed within holding times.	Yes
Trip spikes	78%-84%	Yes
Trip blanks	<LOR	Yes
Rinsate blank	Generally <LOR with the exception of zinc detected at the reporting limit	Partial[1]
Comparability		
Standard operating procedures used for sample collection & handling	Two JBS&G field scientists used standard operating procedures throughout works.	Yes
Standard analytical methods used	Standard analytical methods used, as detailed in the laboratory reports (**Appendix F**)	Yes
Consistent field conditions, sampling staff and laboratory analysis	Sampling was conducted by two field staff members using standard operating procedures in the same conditions throughout the works. The laboratories remained consistent throughout the investigation.	Yes
Limits of reporting appropriate and consistent	Limits of reporting were consistent and appropriate.	Yes
Completeness		
Soil description & Chains of Custody completed	All borehole logs and Chains of Custody were completed appropriately.	Yes
Appropriate documentation	All appropriate field documentation processes were undertaken. Borehole logs and Calibration/ Decontamination records are included as **Appendix I**.	Yes
Satisfactory frequency/result for QC samples	The QC results are considered adequate for the purposes of the investigation.	Yes

Data from critical samples is considered valid	Data from critical samples is considered valid.	Yes
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	Appropriate laboratory analysis methods and detection limits were considered to have been achieved during the field and laboratory phases of this investigation.	Yes

1. See discussion of DQI exceedances in **Section 7.2**.

G.2 QA/QC Discussion

G.2.1 Precision

Analytical results for the primary soil samples were within acceptable limits of agreement when compared with the blind duplicate samples for all analytes within all samples analysed. Analytical results for the primary soil samples were generally within the acceptable limits of agreement when compared with the split duplicate samples with the exception of the following:

- An RPD of 51 % was reported for arsenic between primary sample TP03 0-0.1 and split duplicate sample QC01A;
- An RPD of 58 % was reported for chromium between primary sample TP03 0-0.1 and split duplicate sample QC01A;
- An RPD of 34 % was reported for copper between primary sample TP03 0-0.1 and split duplicate sample QC01A;
- An RPD of 42 % was reported for zinc between primary sample TP03 0-0.1 and split duplicate sample QC01A; and
- An RPD of 46 % was reported for 4,4-DDE between primary sample TP03 0-0.1 and split duplicate sample QC03A.

The RPDs for the intra-laboratory and inter-laboratory duplicates and triplicates are presented in **Appendix H**. High RPDs are considered to be the result of heterogeneity in the soil samples collected. No analytical results from any of the analysed samples, including blind and split duplicates, were in excess of the adopted site criteria and therefore elevated RPDs results are not considered to influence the outcome of the investigation.

All laboratory duplicates returned RPDs within the acceptable limits.

On this basis the DQIs for precision are considered to have been achieved for this investigation.

G.2.2 Accuracy

Surrogate spike recoveries were generally within the acceptable range of 70-130%, with the exception of the following:

- 4-Bromofluorobenzene was under reported in 21 surrogate spike analyses with recoveries ranging from 50 % to 59 %. This analyte is a surrogate for BTEX compounds; given that all BTEX compounds were reported to be below the laboratory LOR and significantly (10x) below the adopted site criteria, this minor discrepancy is not considered to have negatively affected the reliability of the dataset for the intended purpose;
- Dibutylchlorendate was over reported in 12 surrogate spike analyses with recoveries ranging from 131 % to 149 %. This analyte is a surrogate for OCP compounds; given that all OCP compounds were reported significantly (10x) below the adopted site criteria, this minor discrepancy is not considered to have negatively affected the reliability of the dataset for the intended purpose;

- Tetrachloro-m-xylene was over reported in 2 surrogate spike analyses and under reported in 2 surrogate spike analyses with reported recoveries ranging from 51 % to 144 %. This analyte is a surrogate for OCP compounds; given that all OCP compounds were reported significantly (10x) below the adopted site criteria, this minor discrepancy is not considered to have negatively affected the reliability of the dataset for the intended purpose;

Laboratory control sample (LCS) recoveries were within the acceptable range of 70-130% and are considered acceptable.

Matrix spike recoveries were within the acceptable range of 70-130% and are considered acceptable.

On this basis the DQIs for accuracy are considered to have been achieved for this investigation.

G.2.3 Representativeness

The extraction and analysis of selected soil samples was completed within the recommended holding times for all analytes.

A rinsate sample was collected following decontamination of all non-disposable sampling equipment for the soil sampling event. Analyte concentrations in the rinsate blanks were generally below the laboratory limit of reporting (LOR), with the exception of nickel (0.001 mg/L in RINS 10/10/2016). It is considered likely that small particulates of soil which were not able to be removed from the hand trowel between each location and became dislodged during the rinsate procedure would have been washed into the sample container and returned a positive result when analysed. Given the lack of significant concentrations of zinc reported in any of the analysed samples, it is considered that possible cross-contamination as a result of ineffective implementation of decontamination procedures has not negatively affected the data set. Decontamination records are presented in **Appendix I**.

A trip spike was submitted with the soil samples collected during the assessment. Trip spike recoveries for analytes was within the acceptable limit of 70-130%.

A storage blank was submitted with the soil samples collected during the assessment. There were no reported concentrations of BTEX compounds above the laboratory LOR.

All laboratory blanks analysed reported analyte concentrations less than the laboratory LOR.

All field equipment was decontaminated appropriately as per the procedure identified in **Section E.2.3**. Collected samples were immediately placed into the sample containers, sealed and then placed into chilled eskies to minimise volatile loss.

Based on the above comments the DQIs for representativeness were considered to have been satisfactorily achieved.

G.2.4 Comparability

Eurofins, the primary laboratory, and Envirolab Services, the secondary laboratory, are NATA accredited for all analytical methods used. The laboratories used similar analytical methods and the analytical data were comparable between laboratories as indicated by the results of duplicate analysis. Where different LORs were adopted by the laboratories, this did not impact upon the usability of the data given that all values were considerably less than the adopted assessment criteria.

The samples collected for assessment purposes are considered comparable as all samples were collected by experienced JBS&G personnel in accordance with standard JBS&G sampling methods.

G.2.5 Completeness

All laboratory and field documentation is complete and correct. Chain of custody documentation is provided with laboratory reports in **Appendix F**. Bore hole logs are presented in **Appendix H**.

The frequency of analysis of all QA/QC samples was considered appropriate and valid.

G.2.6 Sensitivity

The adopted soil analytical methods provided suitable LORs with respect to the adopted site assessment criteria.

G.3 QA/QC Conclusions

The field sampling and handling procedures across the Site produced QA/QC results which indicate that soil data collected is of an acceptable quality.

The NATA certified laboratory reports indicate that the project laboratories were achieving levels of performance within its recommended control limits during the period when the samples from this program were analysed.

On the basis of the results of the field and laboratory QA/QC program, the soil data is of an acceptable quality upon which to draw conclusions regarding the environmental condition of the Site.

Appendix H Field Borehole Logs

TP01

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290540.6
Northings (GDA 94): 6260688
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass)	TP01 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red / homogeneous / damp / low plasticity / soft / no inclusions	TP01 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP01 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP02

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290574.9
Northings (GDA 94): 6260684
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red and orange / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass)	TP02 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red and orange / homogeneous / damp / low plasticity / soft / no inclusions	TP02 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP02 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP03

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290609.1
Northings (GDA 94): 6260672
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass)	TP03 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Brown / homogeneous / damp / low plasticity / soft / no inclusions	TP03 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5						
		0.50			Test Pit TP03 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP04

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290529
Northings (GDA 94): 6260639
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red and orange / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP04 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red and orange / homogeneous / damp / low plasticity / stiff / no inclusions	TP04 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP04 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP05

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290567.4
Northings (GDA 94): 6260635
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red and orange / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP05 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red and orange / homogeneous / damp / low plasticity / soft / no inclusions		No odours, staining or asbestos in the soil profile
	0.5					TP05 0.2-0.3 PID = 0 ppm	
		0.50			Test Pit TP05 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP06

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290605.2
Northings (GDA 94): 6260631
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass)	TP06 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red / homogeneous / damp / low plasticity / soft / no inclusions	TP06 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP06 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP07

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290517.2
Northings (GDA 94): 6260607
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red and orange / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP07 0-0.1 PID = 0 ppm	
		0.10		CL	Red and orange / homogeneous / damp / low plasticity / stiff / no inclusions		No odours, staining or asbestos in the soil profile
						TP07 0.2-0.3 PID = 0 ppm	
	0.5						
		0.50			Test Pit TP07 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP08

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290561.7
Northings (GDA 94): 6260591
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Red and brown / homogeneous / dry / low plasticity / hard / inclusions of organics (rootlets and grass)	TP08 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red and brown / homogeneous / damp / low plasticity / stiff / no inclusions	TP08 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP08 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP09

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290597.3
Northings (GDA 94): 6260590
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Orange / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP09 0-0.1 PID = 0 ppm	
		0.10		CL	Orange / homogeneous / damp / low plasticity / stiff / inclusions of weathered shale gravels	TP09 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP09 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP10

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290508.7
Northings (GDA 94): 6260569
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Orange / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP10 0-0.1 PID = 0 ppm	
		0.10		CL	Orange / homogeneous / damp / moderate plasticity / stiff / no inclusions	TP10 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP10 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP11

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290553.4
Northings (GDA 94): 6260560
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass) and minor surficial sands	TP11 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Brown / homogeneous / damp / low plasticity / soft / no inclusions	TP11 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP11 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP12

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290592.3
Northings (GDA 94): 6260551
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Orange and yellow / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass)	TP12 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Orange and yellow / homogeneous / damp / low plasticity / soft / no inclusions		No odours, staining or asbestos in the soil profile
	0.5					TP12 0.2-0.3 PID = 0 ppm	
		0.50			Test Pit TP12 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP13

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290509.3
Northings (GDA 94): 6260520
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Orange and yellow / heterogeneous / dry / low plasticity / stiff / inclusions of building rubble (bricks, metal, ash, wood) and ACM present at surface	TP13 0-0.1 PID = 0 ppm	
				CL-ML	Orange and yellow / homogeneous / dry / low plasticity / stiff / no inclusions		No odours, staining or asbestos in the soil profile
		0.20				TP13 0.2-0.3 PID = 0 ppm	
	0.5						
		0.50			Test Pit TP13 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP14

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290545.8
Northings (GDA 94): 6260518
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass)	TP14 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Orange / homogeneous / damp / low plasticity / soft / no inclusions	TP14 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP14 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP15

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290585.5
Northings (GDA 94): 6260512
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / damp / low plasticity / soft / inclusions of organics (rootlets and grass) and minor surficial sands	TP15 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Brown / homogeneous / damp / low plasticity / soft / no inclusions	TP15 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP15 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP16

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290346.9
Northings (GDA 94): 6260502
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Brown / heterogeneous / dry /non plastic / soft / inclusions of building rubble (bricks, tiles, concrete, igneous gravels and ACM)	TP16 0-0.1 PID = 0 ppm	
				CL-ML	Red / homogeneous / dry to damp / low plasticity / stiff / no inclusions		No odours, staining or asbestos in the soil profile
		0.20				TP16 0.2-0.3 PID = 0 ppm	
	0.5						
		0.50			Test Pit TP16 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP17

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290392.7
Northings (GDA 94): 6260498
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / non plastic / stiff / no inclusions	TP17 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Redish brown / homogeneous / damp / low plasticity / soft / no inclusions	TP17 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP17 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP18

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290440.7
Northings (GDA 94): 6260494
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Redish brown / homogeneous / dry / low plasticity / soft / inclusions of minor organics (rootlets and grass)	TP18 0-0.1 PID = 0 ppm TP18 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP18 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP19

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290481.9
Northings (GDA 94): 6260488
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / low plasticity / soft / inclusions of organics (rootlets and grass) and minor surficial sands	TP19 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Brown / homogeneous / damp / low plasticity / soft / no inclusions	TP19 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP19 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP20

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290334.9
Northings (GDA 94): 6260458
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / low plasticity / hard / inclusions of organics (rootlets and grass) and minor surficial sands	TP20 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Brown / homogeneous / damp / low plasticity / firm / no inclusions	TP20 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP20 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP21

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290377.6
Northings (GDA 94): 6260466
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / low plasticity / firm / no inclusions	TP21 0-0.1 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.20		CL-ML	Red / homogeneous / damp / low plasticity / firm / no inclusions	TP210.2-0.3 PID = 0 ppm	
	0.5						
		0.50			Test Pit TP21 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP22

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290420.3
Northings (GDA 94): 6260452
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Brown / homogeneous / dry / low plasticity / soft / inclusions of minor organics (rootlets and grass)	TP22 0-0.1 PID = 0 ppm TP22 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP22 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP23

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290459.6
Northings (GDA 94): 6260449
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Brown to red / homogeneous / damp / low plasticity / soft / no inclusions	TP23 0-0.1 PID = 0 ppm TP23 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP23 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP24

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290492.2
Northings (GDA 94): 6260444
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Brown / homogeneous / damp / low plasticity / soft / no inclusions	TP24 0-0.1 PID = 0 ppm TP24 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP24 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP25

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290329.4
Northings (GDA 94): 6260413
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown to beige / homogeneous / dry / non plastic / hard / no inclusions	TP25 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Orange to red / homogeneous / damp / low plasticity / firm / no inclusions		No odours, staining or asbestos in the soil profile
	0.5					TP25 0.2-0.3 PID = 0 ppm	
		0.50			Test Pit TP25 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP26

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 1
Pit Dimension (m3): 450

Eastings (GDA 94): 290381.3
Northings (GDA 94): 6260419
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / heterogeneous / dry / non plastic / soft / inclusions of rubble (concrete, brick and glass)	TP26 0-0.1 PID = 0 ppm	No odours, staining or asbestos in the soil profile
						TP26 0.2-0.3 PID = 0 ppm	
	0.5						
		0.80		CL-ML	Orange / homogeneous / damp / low plasticity / firm / no inclusions		
	1.0					TP26 0.9-1.0 PID = 0 ppm	
		1.00			Test Pit TP26 terminated at 1m		
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP27

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290418.8
Northings (GDA 94): 6260411
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Brown / homogeneous / moist / moderate plasticity / soft / inclusions of minor organics (rootlets and grass)	TP27 0-0.1 PID = 0 ppm TP27 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP27 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP28

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290469.5
Northings (GDA 94): 6260425
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			ML-CL	Brown / homogeneous / damp / non plastic / soft / inclusions of minor organics (rootlets and grass)	TP28 0-0.1 PID = 0 ppm TP28 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP28 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP29

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290487.9
Northings (GDA 94): 6260420
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit	0.5			CL-ML	Redish brown / homogeneous / damp / low plasticity / soft to firm / no inclusions	TP29 0-0.1 PID = 0 ppm TP29 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
		0.50			Test Pit TP29 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP30

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290328.7
Northings (GDA 94): 6260383
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / low plasticity / soft / no inclusions	TP30 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Orange / homogeneous / dry / non plastic / stiff / no inclusions	TP30 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP30 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP31

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290322.4
Northings (GDA 94): 6260340
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Orange to red / homogeneous / dry / low plasticity / firm to stiff / no inclusions	TP31 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Yellow / homogeneous / dry / non plastic / stiff / inclusion of large (>5 cm in diameter) roots		No odours, staining or asbestos in the soil profile
	0.5					TP31 0.2-0.3 PID = 0 ppm	
		0.50			Test Pit TP31 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

TP32

Project Number: 52116
Client: Legacy Property
Project Name: Caddens Multi Lot DSI
Site Address: Caddens, NSW

Date: 10/10/2016
Logged By: Rohan Hammond
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.5
Pit Dimension (m3): 450

Eastings (GDA 94): 290317.1
Northings (GDA 94): 6260308
Zone/Area:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				CL-ML	Brown / homogeneous / dry / non plastic / stiff / inclusions of surficial building rubble	TP32 0-0.1 PID = 0 ppm	
		0.10		CL-ML	Red to orange / homogeneous / dry / non plastic / stiff / no inclusions	TP32 0.2-0.3 PID = 0 ppm	No odours, staining or asbestos in the soil profile
	0.5	0.50			Test Pit TP32 terminated at 0.5m		
	1.0						
	1.5						

TEST PIT JBSG TEST PIT.GPJ GINT STD AUSTRALIA.GDT 20/10/16

Appendix I Calibration and Decontamination Records

Field Equipment Calibration and Decontamination

JBS&G

PROJECT NAME: Caddens	**PROJECT NO:** 52116
FIELD DATES: 10/10/16	**FIELD STAFF:** RH/JS

CALIBRATION SUMMARY
EQUIPMENT: PID
CALIBRATION STANDARD: Iso butylene 100

DATE	TIME	READING (ppm_v)	COMMENTS
10/10/16	8:35	99.7	Calibration OK

DECONTAMINATION SUMMARY

EQUIPMENT: Hand trowel

1. Was the equipment decontaminated appropriately prior to sampling at each location?	(Y)	N	NA
2. Was excess soil removed by scraping, brushing or wiping with disposable towels?	(Y)	N	NA
3. Was the equipment contaminated with grease, tar or similar material? If so, was the equipment steam cleaned or rinsed with pesticide-grade acetone:hexane?	Y Y	N N	(NA)
4. Was phosphate-free detergent used to wash the equipment?	(Y)	N	NA
5. Was the equipment rinsed with clean water?	(Y)	N	NA
6. Was the equipment then rinsed with deionised water?	(Y)	N	NA
7. Were all sample containers cleaned and acid or solvent washed prior to sample collection?	(Y)	N	NA

WERE ANY ADDITIONAL DECONTAMINATION MEASURES REQUIRED? PROVIDE DETAILS.

Fresh pair of nitrile gloves used to collect each sample

Air-Met Scientific P/L
7-11 Ceylon Street
Nunawading
Victoria 3131, Australia

Calibration Certificate

This document hereby certifies that this instrument detailed has been calibrated to the parameters listed below.

Certificate Print Date: 18 July, 2016
Calibration Date: 18 July, 2016
Next Calibration Due: 18 January, 2017

Call ID: **00194320**
Job / SO Number:

Customer: JBS&G(NSW&WA)PTY LTD **Type:** Misc
Model: Miscellaneous **Serial No:** T-107613
Description: PhoCheck Tiger

Sensor	Date Code	Gas Bottle No.	Calibration Gas and Concentration	C.F	C.V	Certified	Instrument Readings Before / Span Res.	After
PID	//	SY129	ISOBUTYLENE 100PPM, BAL			NIST	90 PPM	100 PPM
	//							
	//							
	//							
	//							
	//							

Completed by: *Kurt Avallone* **Signed:**

Australian Standard Alarm Levels ☑

CF - Conversion Factor, CV Compensated Value
CV = CF * Span Gas

Air-Met Scientific

Service Report

airmet
Work with Confidence

ABN 73 006 849 949

INVOICE ADDRESS	DELIVERY ADDRESS
JBS&G Australia Pty Ltd Level 1 50 Margaret Street Sydney NSW 2000 Australia	JBS&G Australia Pty Ltd Level 1 50 Margaret Street Sydney NSW 2000 Australia **Attention:** Michelle Delandro **Email:** MDelandro@jbsg.com.au

Customer Code	Call Reference	Customer Order No	Work Order	Date: 19/07/2016
202507	218707	408829		Page 1 of 1

Serial Number T-107613
PID, Phocheck Tiger
Filter was blocked.
Inlet nossle was blocked
Cleaned PID lamp.
PhoCheck Tiger serviced, cleaned and calibrated. PhoCheck Tiger is in good working condition.

Materials/Activity		Unit	Time / Quantity
301	301 Labour (charged)	Hour	1.00
CALPID	Factory calibration of a PID monitor	EA	1.00

Miscellaneous Charge

Misc Code	Description
30	SRV Freight

Appendix J Detailed Quality Assurance / Quality Control

ESDAT QA Checker
Project:52116
Filter: SDG in('519296')

Overview Summary
- Count of Samples
- Summary By Compound
- Count of Results

Holding Times
- Holding Time Errors (0)

Blanks
- Field Blanks
- Detects in Lab Blanks (0)
- SDG's without Storage Blanks (0)
- SDG's without Method Blanks (0)

Duplicates
- Field and Interlab Duplicates
- Lab Duplicates with high RPDs (0)
- Duplicate Samples with incorrect or missing Parent Samples (0)
- Samples at the same Location/Depth/Time not specified as duplicates (0)

Surrogates
- Surrogate Variation > 30% or outside lab LCL or UCL (39)

Lab Control Samples
- SDG's without a Laboratory Control Sample (0)
- Laboratory Control Samples, Error > 30% (0)

Certified and Standard Reference Materials
- Certified Reference Materials - Error > 30% (0)

Matrix Spikes
- SDG's without a Matrix Spike (0)
- Trip Spikes with invalid Control Sample (0)
- Less than 1 matrix spike in 20 samples, or less than 1 matrix duplicate in 20 samples (2)
- Matrix Spike Recoveries less than 70% or greater than 130% or outside lab LCL or UCL (0)
- Trip Spike Recoveries (70% - 130% is acceptable) (6)

Inorganic
- Na + CL > TDS (0)
- BOD > COD (0)
- BOD > COD (0)

Other
- Unit Conversion Problems (0)
- OriginalChemNames Requiring Validation (0)
- Samples with no Results (0)
- Samples associated with Wells which are not specified in the Well Table (0)
- Aborted Analysis (0)

Contents

Count of Samples

Matrix Type	SOIL	WATER
First Sample Date	10/10/2016	10/10/2016
Last Sample Date	10/10/2016	10/10/2016
Sampling Period (days)	1	1
Number of Samples Submitted	54	2
Number of Non QA Samples Submitted	51	0
Number of Field Blanks	0	0
Number of Trip Blanks	0	1
Number of Rinsates	0	1
Number of Field Duplicates	3	0
Number of Trip Spikes	0	1
Number of Lab Duplicates	17	0
Number of LCSs	7	8
Number of CRMs	0	0
Number of Method Blanks	8	5
Number of Storage Blanks	0	0
Number of Matrix Spikes	10	5
Number of Matrix Spike Dupes	0	0

Filter: SDG in('519296')

			Num Results	Holding Times (days)				Lab Control Samples			Method and Storage Blanks			Laboratory Duplicates			Surrogates			Matrix,Trip and Compound Spikes			Field,Rinsate and Trip Blanks			Field Duplicates		
Chem_Group	ChemName	Range	Non QA (Normal + Composite)	Volatility Group	Sample to Extraction	Sample to Analysis	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable
Asbestos	Approx. Sample Mass		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Asbestos from ACM in Soil		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Asbestos from FA & AF in Soil		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass ACM		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass AF		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass Asbestos in ACM		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass Asbestos in AF		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass Asbestos in FA		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass Asbestos in FA & AF		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Mass FA		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
Asbestos	Synthetic Fibres - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
Asbestos - Trace Analysis	ACM - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	AF - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	FA - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Organic Fibres - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
	Respirable Fibres - Comment		5	Other	2	8	Y		0			0			0	N		0			0			0			1	Y
BTEX	Benzene	0.1 mg/kg	39	VOC	3	8	Y	100 to 100	1	Y	ND	1	Y		0	N		0		116 to 116	1	Y		0			3	Y
	Ethylbenzene	0.1 mg/kg	39	VOC	3	8	Y	97 to 97	1	Y	ND	1	Y		0	N		0		115 to 115	1	Y		0			3	Y
	Toluene	0.1 mg/kg	39	VOC	3	8	Y	99 to 99	1	Y	ND	1	Y		0	N		0		114 to 114	1	Y		0			3	Y
	Xylene (m & p)	0.2 mg/kg	39	VOC	3	8	Y	95 to 95	1	Y	ND	1	Y		0	N		0		113 to 113	1	Y		0			3	Y
	Xylene (o)	0.1 mg/kg	39	VOC	3	8	Y		0		ND	1	Y		0	N		0		113 to 113	1	Y		0			3	Y
	Xylene (Total)	0.3 mg/kg	39	VOC	3	8	Y	94 to 94	1	Y	ND	1	Y		0	N		0		113 to 113	1	Y		0			3	Y
Chlorinated Benzenes	Hexachlorobenzene	0.05 mg/kg	15	SVOC	3	8	Y	111 to 111	1	Y	ND	1	Y		0	N		0		124 to 124	1	Y		0			1	Y
Ionic Balance	Cation Exchange Capacity	0.05 meq/100g	4	Other	4	8	Y		0		ND	1	Y		0	N		0			0			0			0	N
	EC 1:5 soil:water		4	Other	3	8	Y		0			0		10	1	Y		0			0			0			0	N
	pH 1:5 soil:water	0.1 ph Units	4	Other	3	8	Y		0			0			0	N		0			0			0			0	N
Metals & Metalloids	Arsenic (Total)	2 mg/kg	36	Other	3	8	Y	104 to 104	1	Y	ND	1	Y	18	8	Y		0		98 to 105	4	Y		0		15	3	Y
	Cadmium	0.4 mg/kg	36	Other	3	8	Y	101 to 101	1	Y	ND	1	Y		8	Y		0		100 to 105	4	Y		0			3	Y
	Chromium (Total)	5 mg/kg	36	Other	3	8	Y	105 to 105	1	Y	ND	1	Y	14	8	Y		0		96 to 108	4	Y		0		33	3	Y
	Copper	5 mg/kg	36	Other	3	8	Y	112 to 112	1	Y	ND	1	Y	25	8	Y		0		109 to 122	4	Y		0		25	3	Y
	Lead	5 mg/kg	36	Other	3	8	Y	105 to 105	1	Y	ND	1	Y	15	8	Y		0		98 to 100	4	Y		0		11	3	Y
	Mercury (Inorganic)	0.1 mg/kg	36	Other	3	8	Y	115 to 115	1	Y	ND	1	Y		4	Y		0		113 to 117	3	Y		0			3	Y
	Nickel	5 mg/kg	36	Other	3	8	Y	107 to 107	1	Y	ND	1	Y	18	8	Y		0		96 to 110	4	Y		0		26	3	Y
	Zinc	5 mg/kg	36	Other	3	8	Y	111 to 111	1	Y	ND	1	Y	15	8	Y		0		89 to 118	4	Y		0		25	3	Y
Organochlorine Pesticides	4,4-DDE	0.05 mg/kg	15	SVOC	3	8	Y	123 to 123	1	Y	ND	1	Y		1	Y		0		130 to 130	1	Y		0		27	1	Y
	Aldrin	0.05 mg/kg	15	SVOC	3	8	Y	109 to 109	1	Y	ND	1	Y		1	Y		0		112 to 112	1	Y		0			1	Y
	alpha-BHC	0.05 mg/kg	15	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		1	Y		0		122 to 122	1	Y		0			1	Y
	beta-BHC	0.05 mg/kg	15	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		1	Y		0		129 to 129	1	Y		0			1	Y
	Chlordane	0.1 mg/kg	15	SVOC	3	8	Y		0		ND	1	Y		1	Y		0			0			0			1	Y
	DDD	0.05 mg/kg	15	SVOC	3	8	Y	124 to 124	1	Y	ND	1	Y		1	Y		0		110 to 110	1	Y		0			1	Y
	DDT	0.05 mg/kg	15	SVOC	3	8	Y	113 to 113	1	Y	ND	1	Y		1	Y		0		114 to 114	1	Y		0			1	Y
	delta-BHC	0.05 mg/kg	15	SVOC	3	8	Y	125 to 125	1	Y	ND	1	Y		1	Y		0		126 to 126	1	Y		0			1	Y
	Dieldrin	0.05 mg/kg	15	SVOC	3	8	Y	123 to 123	1	Y	ND	1	Y		1	Y		0		113 to 113	1	Y		0			1	Y
	Endosulfan alpha	0.05 mg/kg	15	SVOC	3	8	Y	120 to 120	1	Y	ND	1	Y		0	N		0		122 to 122	1	Y		0			1	Y
	Endosulfan beta	0.05 mg/kg	15	SVOC	3	8	Y	128 to 128	1	Y	ND	1	Y		1	Y		0		105 to 105	1	Y		0			1	Y
	Endosulfan sulphate	0.05 mg/kg	15	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		1	Y		0		115 to 115	1	Y		0			1	Y
	Endrin	0.05 mg/kg	15	SVOC	3	8	Y	116 to 116	1	Y	ND	1	Y		1	Y		0		107 to 107	1	Y		0			1	Y
	Endrin aldehyde	0.05 mg/kg	15	SVOC	3	8	Y	101 to 101	1	Y	ND	1	Y		1	Y		0		125 to 125	1	Y		0			1	Y
	Endrin ketone	0.05 mg/kg	15	SVOC	3	8	Y	115 to 115	1	Y	ND	1	Y		1	Y		0		123 to 123	1	Y		0			1	Y
	Heptachlor	0.05 mg/kg	15	SVOC	3	8	Y	112 to 112	1	Y	ND	1	Y		1	Y		0		121 to 121	1	Y		0			1	Y
	Heptachlor Epoxide	0.05 mg/kg	15	SVOC	3	8	Y	126 to 126	1	Y	ND	1	Y		1	Y		0		115 to 115	1	Y		0			1	Y
	Lindane	0.05 mg/kg	15	SVOC	3	8	Y	114 to 114	1	Y	ND	1	Y		1	Y		0		122 to 122	1	Y		0			1	Y
	Methoxychlor	0.05 mg/kg	15	SVOC	3	8	Y	102 to 102	1	Y	ND	1	Y		1	Y		0		108 to 108	1	Y		0			1	Y
	Toxaphene	1 mg/kg	15	SVOC	3	8	Y		0		ND	1	Y		1	Y		0			0			0			1	Y
Other	% Clay	1 %	4	Other	3	8	Y	105 to 105	1	Y	ND	1	Y	6	1	Y		0			0			0			0	N
	% Moisture 103oC	1 %	49	Other	2	8	Y		0			0		8	5	Y		0			0			0		11	3	Y
Polycyclic Aromatic Hydrocarbons	Acenaphthene	0.5 mg/kg	13	SVOC	3	8	Y	97 to 97	1	Y	ND	1	Y		1	Y		0		104 to 104	1	Y		0			1	Y
	Acenaphthylene	0.5 mg/kg	13	SVOC	3	8	Y	101 to 101	1	Y	ND	1	Y		1	Y		0		109 to 109	1	Y		0			1	Y
	Anthracene	0.5 mg/kg	13	SVOC	3	8	Y	106 to 106	1	Y	ND	1	Y		1	Y		0		112 to 112	1	Y		0			1	Y
	Benz(a)anthracene	0.5 mg/kg	13	SVOC	3	8	Y	99 to 99	1	Y	ND	1	Y		1	Y		0		103 to 103	1	Y		0			1	Y
	Benzo(a)pyrene	0.5 mg/kg	13	SVOC	3	8	Y	104 to 104	1	Y	ND	1	Y		1	Y		0		110 to 110	1	Y		0			1	Y
	Benzo(a)pyrene TEQ (lower bound)[1]	0.5 mg/kg	13	SVOC	2	8	Y		0			0			0	N		0			0			0			1	Y
	Benzo(a)pyrene TEQ (medium bound)[2]	0.5 mg/kg	13	SVOC	2	8	Y		0			0			0	N		0			0			0		0	1	Y
	Benzo(a)pyrene TEQ (upper bound)[3]	0.5 mg/kg	13	SVOC	2	8	Y		0			0			0	N		0			0			0		0	1	Y
	Benzo(b,j)fluoranthene	0.5 mg/kg	13	SVOC	3	8	Y	103 to 103	1	Y	ND	1	Y		1	Y		0		111 to 111	1	Y		0			1	Y
	Benzo(g,h,i)perylene	0.5 mg/kg	13	SVOC	3	8	Y	71 to 71	1	Y	ND	1	Y		1	Y		0		70 to 70	1	Y		0			1	Y
	Benzo(k)fluoranthene	0.5 mg/kg	13	SVOC	3	8	Y	125 to 125	1	Y	ND	1	Y		1	Y		0		123 to 123	1	Y		0			1	Y
	Chrysene	0.5 mg/kg	13	SVOC	3	8	Y	112 to 112	1	Y	ND	1	Y		1	Y		0		121 to 121	1	Y		0			1	Y
	Dibenz(a,h)anthracene	0.5 mg/kg	13	SVOC	3	8	Y	74 to 74	1	Y	ND	1	Y		1	Y		0		84 to 84	1	Y		0			1	Y
	Fluoranthene	0.5 mg/kg	13	SVOC	3	8	Y	107 to 107	1	Y	ND	1	Y		1	Y		0		118 to 118	1	Y		0			1	Y
	Fluorene	0.5 mg/kg	13	SVOC	3	8	Y	100 to 100	1	Y	ND	1	Y		1	Y		0		106 to 106	1	Y		0			1	Y
	Indeno(1,2,3-c,d)pyrene	0.5 mg/kg	13	SVOC	3	8	Y	70 to 70	1	Y	ND	1	Y		1	Y		0		74 to 74	1	Y		0			1	Y
	Naphthalene	0.5 mg/kg	52	VOC	3	8	Y	97 to 120	2	Y	ND	2	Y		1	Y		0		98 to 126	2	Y		0			4	Y
	PAHs (Total)	0.5 mg/kg	13	SVOC	2	8	Y		0			0			0	N		0			0			0			1	Y
	Phenanthrene	0.5 mg/kg	13	SVOC	3	8	Y	91 to 91	1	Y	ND	1	Y		1	Y		0		101 to 101	1	Y		0			1	Y
	Pyrene	0.5 mg/kg	13	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		1	Y		0		119 to 119	1	Y		0			1	Y
Surrogate	4-Terphenyl-d14		0	SVOC			Y		0			0			0	N	89 to 105	14	Y		0			0			0	N
	Surrogate 2-fluorobiphenyl		0	SVOC			Y		0			0			0	N	89 to 100	14	Y		0			0			0	N
	Surrogate 4-BFB		0	VOC			Y		0			0			0	N	50 to 122	42	N		0			0			0	N
	Surrogate Dibutylchlorendate		0	SVOC			Y		0			0			0	N	95 to 149	16	N		0			0			0	N
	Surrogate TCMX		0	SVOC			Y		0			0			0	N	51 to 144	16	N		0			0			0	N
TPHs (NEPC 1999)	C10-C14 Fraction	20 mg/kg	39	SVOC	3	8	Y	109 to 109	1	Y	ND	1	Y		4	Y		0		105 to 130	4	Y		0			3	Y
	C10-C36 Fraction (Total)	50 mg/kg	39	SVOC	2	8	Y		0			0			0	N		0			0			0			3	Y
	C15-C28 Fraction	50 mg/kg	39	SVOC	3	8	Y		0		ND	1	Y		4	Y		0			0			0			3	Y
	C29-C36 Fraction	50 mg/kg	39	SVOC	3	8	Y		0		ND	1	Y		4	Y		0			0			0			3	Y
	C6-C9 Fraction	20 mg/kg	39	VOC	3	8	Y	97 to 97	1	Y	ND	1	Y		0	N		0		110 to 110	1	Y		0			3	Y

Filter: SDG in('519296')

			Num Results	Holding Times (days)				Lab Control Samples			Method and Storage Blanks			Laboratory Duplicates			Surrogates			Matrix,Trip and Compound Spikes			Field,Rinsate and Trip Blanks			Field Duplicates		
Chem_Group	ChemName	Range	Non QA (Normal + Composite)	Volatility Group	Sample to Extraction	Sample to Analysis	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable
TRHs (NEPC 2013)	>C10 - C16 less Naphthalene (F2)	50 mg/kg	39	SVOC	2	8	Y		0			0			0	N		0			0			0			3	Y
	>C10-C16 Fraction	50 mg/kg	39	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		0	N		0		103 to 124	4	Y		0			3	Y
	>C16-C34 Fraction	100 mg/kg	39	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0			0			3	Y
	>C34-C40 Fraction	100 mg/kg	39	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0			0			3	Y
	C6 - C10 less BTEX (F1)	20 mg/kg	39	VOC	2	8	Y		0			0			0	N		0			0			0			3	Y
	C6-C10 Fraction	20 mg/kg	39	VOC	3	8	Y	91 to 91	1	Y	ND	1	Y		0	N		0		98 to 98	1	Y		0			3	Y
BTEX	Benzene		0	VOC	2	8	Y	76 to 76	1	Y	ND	1	Y		0	N		0		84 to 86	2	Y	ND	2	Y		0	N
	Ethylbenzene		0	VOC	2	8	Y	101 to 101	1	Y	ND	1	Y		0	N		0		87 to 95	2	Y	ND	2	Y		0	N
	Toluene		0	VOC	2	8	Y	80 to 80	1	Y	ND	1	Y		0	N		0		79 to 83	2	Y	ND	2	Y		0	N
	Xylene (m & p)		0	VOC	2	8	Y	88 to 88	1	Y	ND	1	Y		0	N		0		78 to 83	2	Y	ND	2	Y		0	N
	Xylene (o)		0	VOC	2	8	Y		0		ND	1	Y		0	N		0		80 to 89	2	Y	ND	2	Y		0	N
	Xylene (Total)		0	VOC	2	8	Y	90 to 90	1	Y	ND	1	Y		0	N		0		79 to 85	2	Y	ND	2	Y		0	N
Chlorinated Benzenes	Hexachlorobenzene		0	SVOC	3	8	Y	112 to 112	1	Y	ND	1	Y		0	N		0		115 to 115	1	Y	ND	1	Y		0	N
Metals & Metalloids	Arsenic (Total)		0	Other	2	8	Y	89 to 89	1	Y	ND	1	Y		0	N		0		91 to 91	1	Y	ND	1	Y		0	N
	Cadmium		0	Other	2	8	Y	85 to 85	1	Y	ND	1	Y		0	N		0		83 to 83	1	Y	ND	1	Y		0	N
	Chromium (Total)		0	Other	2	8	Y	84 to 84	1	Y	ND	1	Y		0	N		0		84 to 84	1	Y	ND	1	Y		0	N
	Copper		0	Other	2	8	Y	85 to 85	1	Y	ND	1	Y		0	N		0		83 to 83	1	Y	ND	1	Y		0	N
	Lead		0	Other	2	8	Y	88 to 88	1	Y	ND	1	Y		0	N		0		86 to 86	1	Y	ND	1	Y		0	N
	Mercury (Inorganic)		0	Other	2	8	Y	90 to 90	1	Y	ND	1	Y		0	N		0		87 to 87	1	Y	ND	1	Y		0	N
	Nickel		0	Other	2	8	Y	86 to 86	1	Y	ND	1	Y		0	N		0		84 to 84	1	Y	0.001 to 0.001 mg/l	1	N		0	N
	Zinc		0	Other	2	8	Y	86 to 86	1	Y	ND	1	Y		0	N		0		83 to 83	1	Y	ND	1	Y		0	N
Organochlorine Pesticides	4,4-DDE		0	SVOC	3	8	Y	75 to 75	1	Y	ND	1	Y		0	N		0		99 to 99	1	Y	ND	1	Y		0	N
	Aldrin		0	SVOC	3	8	Y	108 to 108	1	Y	ND	1	Y		0	N		0		120 to 120	1	Y	ND	1	Y		0	N
	alpha-BHC		0	SVOC	3	8	Y	96 to 96	1	Y	ND	1	Y		0	N		0		92 to 92	1	Y	ND	1	Y		0	N
	beta-BHC		0	SVOC	3	8	Y	116 to 116	1	Y	ND	1	Y		0	N		0		111 to 111	1	Y	ND	1	Y		0	N
	Chlordane		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
	DDD		0	SVOC	3	8	Y	91 to 91	1	Y	ND	1	Y		0	N		0		114 to 114	1	Y	ND	1	Y		0	N
	DDT		0	SVOC	3	8	Y	117 to 117	1	Y	ND	1	Y		0	N		0		120 to 120	1	Y	ND	1	Y		0	N
	delta-BHC		0	SVOC	3	8	Y	127 to 127	1	Y	ND	1	Y		0	N		0		72 to 72	1	Y	ND	1	Y		0	N
	Dieldrin		0	SVOC	3	8	Y	96 to 96	1	Y	ND	1	Y		0	N		0		115 to 115	1	Y	ND	1	Y		0	N
	Endosulfan alpha		0	SVOC	3	8	Y	103 to 103	1	Y	ND	1	Y		0	N		0		85 to 85	1	Y	ND	1	Y		0	N
	Endosulfan beta		0	SVOC	3	8	Y	107 to 107	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Endosulfan sulphate		0	SVOC	3	8	Y	115 to 115	1	Y	ND	1	Y		0	N		0		76 to 76	1	Y	ND	1	Y		0	N
	Endrin		0	SVOC	3	8	Y	101 to 101	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Endrin aldehyde		0	SVOC	3	8	Y	76 to 76	1	Y	ND	1	Y		0	N		0		106 to 106	1	Y	ND	1	Y		0	N
	Endrin ketone		0	SVOC	3	8	Y	93 to 93	1	Y	ND	1	Y		0	N		0		102 to 102	1	Y	ND	1	Y		0	N
	Heptachlor		0	SVOC	3	8	Y	122 to 122	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Heptachlor Epoxide		0	SVOC	3	8	Y	125 to 125	1	Y	ND	1	Y		0	N		0		125 to 125	1	Y	ND	1	Y		0	N
	Lindane		0	SVOC	3	8	Y	125 to 125	1	Y	ND	1	Y		0	N		0		112 to 112	1	Y	ND	1	Y		0	N
	Methoxychlor		0	SVOC	3	8	Y	111 to 111	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Toxaphene		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
Polycyclic Aromatic Hydrocarbons	Acenaphthene		0	SVOC	3	8	Y	85 to 85	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Acenaphthylene		0	SVOC	3	8	Y	93 to 93	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Anthracene		0	SVOC	3	8	Y	86 to 86	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Benz(a)anthracene		0	SVOC	3	8	Y	70 to 70	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Benzo(a)pyrene		0	SVOC	3	8	Y	96 to 96	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Benzo(b,j)fluoranthene		0	SVOC	3	8	Y	101 to 101	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Benzo(g,h,i)perylene		0	SVOC	3	8	Y	70 to 70	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Benzo(k)fluoranthene		0	SVOC	3	8	Y	117 to 117	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Chrysene		0	SVOC	3	8	Y	75 to 75	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Dibenz(a,h)anthracene		0	SVOC	3	8	Y	75 to 75	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Fluoranthene		0	SVOC	3	8	Y	77 to 77	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Fluorene		0	SVOC	3	8	Y	90 to 90	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Indeno(1,2,3-c,d)pyrene		0	SVOC	3	8	Y	70 to 70	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Naphthalene		0	VOC	2 to 3	8	Y	80 to 125	2	Y	ND	2	Y		0	N		0		125 to 125	1	Y	ND	2	Y		0	N
	PAHs (Total)		0	SVOC	2	8	Y		0			0			0	N		0			0		ND	1	Y		0	N
	Phenanthrene		0	SVOC	3	8	Y	84 to 84	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
	Pyrene		0	SVOC	3	8	Y	76 to 76	1	Y	ND	1	Y		0	N		0			0		ND	1	Y		0	N
Surrogate	4-Terphenyl-d14		0	SVOC			Y		0			0			0	N	71 to 71	1	Y		0			0			0	N
	Surrogate 2-fluorobiphenyl		0	SVOC			Y		0			0			0	N	53 to 53	1	N		0			0			0	N
	Surrogate 4-BFB		0	VOC			Y		0			0			0	N	79 to 104	3	Y		0			0			0	N
	Surrogate Dibutylchlorendate		0	SVOC			Y		0			0			0	N	127 to 127	1	Y		0			0			0	N
	Surrogate TCMX		0	SVOC			Y		0			0			0	N	76 to 76	1	Y		0			0			0	N
TPHs (NEPC 1999)	C10-C14 Fraction		0	SVOC	3	8	Y	124 to 124	1	Y	ND	1	Y		0	N		0		74 to 74	1	Y	ND	1	Y		0	N
	C10-C36 Fraction (Total)		0	SVOC	2	8	Y		0			0			0	N		0			0		ND	1	Y		0	N
	C15-C28 Fraction		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
	C29-C36 Fraction		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
	C6-C9 Fraction		0	VOC	2	8	Y	92 to 92	1	Y	ND	1	Y		0	N		0		73 to 73	1	Y	ND	1	Y		0	N
TRHs (NEPC 2013)	>C10 - C16 less Naphthalene (F2)		0	SVOC	2	8	Y		0			0			0	N		0			0		ND	1	Y		0	N
	>C10-C16 Fraction		0	SVOC	3	8	Y	123 to 123	1	Y	ND	1	Y		0	N		0		74 to 74	1	Y	ND	1	Y		0	N
	>C16-C34 Fraction		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
	>C34-C40 Fraction		0	SVOC	3	8	Y		0		ND	1	Y		0	N		0			0		ND	1	Y		0	N
	C6 - C10 less BTEX (F1)		0	VOC	2	8	Y		0			0			0	N		0			0		ND	1	Y		0	N
	C6-C10 Fraction		0	VOC	2	8	Y	89 to 89	1	Y	ND	1	Y		0	N		0		71 to 71	1	Y	ND	1	Y		0	N

Filter: SDG in('519296')

Contents

Count of Results

Matrix_Type	Sample_Type	Reg	Leached	Spike_Compounds	Surrogate
SOIL	Normal	1753	0	0	95
SOIL	Field_D	141	0	0	7
SOIL	LAB_D	128	0	0	0
SOIL	MS	0	0	83	0
SOIL	MB	62	0	0	0
SOIL	LCS	54	0	0	0
WATER	Rinsate	64	0	0	5
WATER	MB	60	0	0	0
WATER	LCS	53	0	0	0
WATER	MS	0	0	34	0
WATER	Trip_S	6	0	0	1
WATER	Trip_B	6	0	0	1

[Filter]

Field Blanks (WATER)
Filter: SDG in('519296')

SDG	519296	519296
Field ID	RINS	TB
Sampled_Date/Time	10/10/2016	10/10/2016
Sample Type	Rinsate	Trip_B

Chem_Group	ChemName	Units	EQL		
BTEX	Benzene	mg/l	0.001	<0.001	<0.001
	Ethylbenzene	mg/l	0.001	<0.001	<0.001
	Toluene	mg/l	0.001	<0.001	<0.001
	Xylene (m & p)	mg/l	0.002	<0.002	<0.002
	Xylene (o)	mg/l	0.001	<0.001	<0.001
	Xylene (Total)	mg/l	0.003	<0.003	<0.003
Chlorinated Benzenes	Hexachlorobenzene	mg/l	0.0001	<0.0001	
Metals & Metalloids	Arsenic (Total)	mg/l	0.001	<0.001	
	Cadmium	mg/l	0.0002	<0.0002	
	Chromium (Total)	mg/l	0.001	<0.001	
	Copper	mg/l	0.001	<0.001	
	Lead	mg/l	0.001	<0.001	
	Mercury (Inorganic)	mg/l	0.0001	<0.0001	
	Nickel	mg/l	0.001	**0.001**	
	Zinc	mg/l	0.005	<0.005	
Organochlorine Pesticides	Aldrin	mg/l	0.0001	<0.0001	
	4,4-DDE	µg/l	0.1	<0.1	
	Dieldrin	mg/l	0.0001	<0.0001	
	DDD	mg/l	0.0001	<0.0001	
	alpha-BHC	mg/l	0.0001	<0.0001	
	DDT	mg/l	0.0001	<0.0001	
	beta-BHC	mg/l	0.0001	<0.0001	
	Chlordane	mg/l	0.001	<0.001	
	delta-BHC	mg/l	0.0001	<0.0001	
	Endosulfan alpha	mg/l	0.0001	<0.0001	
	Endosulfan beta	mg/l	0.0001	<0.0001	
	Endosulfan sulphate	mg/l	0.0001	<0.0001	
	Endrin	mg/l	0.0001	<0.0001	
	Endrin aldehyde	mg/l	0.0001	<0.0001	
	Endrin ketone	mg/l	0.0001	<0.0001	
	Heptachlor	mg/l	0.0001	<0.0001	
	Heptachlor Epoxide	mg/l	0.0001	<0.0001	
	Lindane	mg/l	0.0001	<0.0001	
	Methoxychlor	mg/l	0.0001	<0.0001	
	Toxaphene	mg/l	0.01	<0.01	
Polycyclic Aromatic Hydrocarbons	Acenaphthene	mg/l	0.001	<0.001	
	Acenaphthylene	mg/l	0.001	<0.001	
	Anthracene	mg/l	0.001	<0.001	
	Benz(a)anthracene	mg/l	0.001	<0.001	
	Benzo(a)pyrene	mg/l	0.001	<0.001	
	Benzo(b,j)fluoranthene	mg/l	0.001	<0.001	
	Benzo(g,h,i)perylene	mg/l	0.001	<0.001	
	Benzo(k)fluoranthene	mg/l	0.001	<0.001	
	Chrysene	mg/l	0.001	<0.001	
	Dibenz(a,h)anthracene	mg/l	0.001	<0.001	
	Fluoranthene	mg/l	0.001	<0.001	
	Fluorene	mg/l	0.001	<0.001	
	Indeno(1,2,3-c,d)pyrene	mg/l	0.001	<0.001	
	Naphthalene	mg/l	0.001	<0.01	
	Phenanthrene	mg/l	0.001	<0.001	
	Pyrene	mg/l	0.001	<0.001	
	PAHs (Total)	mg/l	0.001	<0.001	
TPHs (NEPC 1999)	C6-C9 Fraction	mg/l	0.02	<0.02	
	C10-C14 Fraction	mg/l	0.05	<0.05	
	C15-C28 Fraction	mg/l	0.1	<0.1	
	C29-C36 Fraction	mg/l	0.1	<0.1	
	C10-C36 Fraction (Total)	mg/l	0.1	<0.1	
TRHs (NEPC 2013)	>C10-C16 Fraction	mg/l	0.05	<0.05	
	>C16-C34 Fraction	mg/l	0.1	<0.1	
	>C34-C40 Fraction	mg/l	0.1	<0.1	
	C6-C10 Fraction	mg/l	0.02	<0.02	
	C6 - C10 less BTEX (F1)	mg/l	0.02	<0.02	
	>C10 - C16 less Naphthalene (F2)	mg/l	0.05	<0.05	

Field Duplicates (SOIL)
Filter: SDG in('519296'

		SDG	519296	519296		519296	519296		519296	519296		519296	ENVIROLAB 2016-10-11T00:00:00		519296	ENVIROLAB 2016-10-11T00:00:00		519296	ENVIROLAB 2016-10-11T00:00:00	
		Field ID	TP03_0-0.1	QC01	RPD	TP14_0.2-0.3	QC02	RPD	TP29_0-0.1	QC03	RPD	TP03_0-0.1	QC01A	RPD	TP14_0.2-0.3	QC02A	RPD	TP29_0-0.1	QC03A	RPD
		Sampled Date/Time	10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016	
Chem_Grc	ChemNam	Units	EQL																		
Metals & M	Arsenic (To	mg/kg	2 (Primary): 4 (Interlab)	8.4	7.2	15	8.5	8.9	5	8.7	9.7	11	**8.4**	**5.0**	**51**	8.5	8.0	6	8.7	8.0	8
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium	mg/kg	5 (Primary): 1 (Interlab)	20.0	20.0	0	28.0	39.0	33	42.0	52.0	21	**20.0**	**11.0**	**58**	28.0	25.0	11	42.0	36.0	15
	Copper	mg/kg	5 (Primary): 1 (Interlab)	41.0	44.0	7	32.0	41.0	25	35.0	40.0	13	**41.0**	**29.0**	**34**	32.0	28.0	13	35.0	27.0	26
	Lead	mg/kg	5 (Primary): 1 (Interlab)	18.0	17.0	6	28.0	31.0	10	25.0	28.0	11	18.0	13.0	32	28.0	20.0	33	25.0	19.0	27
	Mercury (Ir	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 (Primary): 1 (Interlab)	21.0	22.0	5	27.0	35.0	26	33.0	39.0	17	21.0	15.0	33	27.0	23.0	16	33.0	27.0	20
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	64.0	68.0	6	68.0	87.0	25	70.0	90.0	25	**64.0**	**42.0**	**42**	68.0	56.0	19	70.0	65.0	7
etalloids																					
TPHs (NEF	C6-C9 Fra	mg/kg	20 (Primary): 25 (Interlat	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0	<20.0	<25.0	0	<20.0	<25.0	0
	C10-C14 F	mg/kg	20 (Primary): 50 (Interlat	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<50.0	0	<20.0	<50.0	0	<20.0	<50.0	0
	C15-C28 F	mg/kg	50 (Primary): 100 (Interla	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<100.0	0	<50.0	<100.0	0	<50.0	<100.0	0
	C29-C36 F	mg/kg	50 (Primary): 100 (Interla	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<100.0	0	<50.0	<100.0	0	<50.0	<100.0	0
	C10-C36 F	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0			<50.0			<50.0		
C 1999)																					
TRHs (NEF	>C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	>C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	>C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C6-C10 Fra	mg/kg	20 (Primary): 25 (Interlat	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0	<20.0	<25.0	0	<20.0	<25.0	0
	C6 - C10 le	mg/kg	20 (Primary): 25 (Interlat	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0	<20.0	<25.0	0	<20.0	<25.0	0
	>C10 - C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
C 2013)																					
BTEX	Benzene	mg/kg	0.1 (Primary): 0.2 (Interla	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.2	0	<0.1	<0.2	0	<0.1	<0.2	0
	Ethylbenze	mg/kg	0.1 (Primary): 1 (Interlab	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<1.0	0	<0.1	<1.0	0	<0.1	<1.0	0
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interla	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.5	0	<0.1	<0.5	0
	Xylene (m	mg/kg	0.2 (Primary): 2 (Interlab	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<2.0	0	<0.2	<2.0	0	<0.2	<2.0	0
	Xylene (o)	mg/kg	0.1 (Primary): 1 (Interlab	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<1.0	0	<0.1	<1.0	0	<0.1	<1.0	0
	Xylene (To	mg/kg	0.3	<0.3	<0.3	0	<0.3	<0.3	0	<0.3	<0.3	0	<0.3			<0.3			<0.3		
Polycyclic /	Acenaphth	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Acenaphth	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Benz(a)ant	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Benzo(a)py	mg/kg	0.5 (Primary): 0.05 (Interlab)							<0.5	<0.5	0							<0.5	<0.05	0
	Benzo(a)py	mg/kg	0.5							<0.5	<0.5	0							<0.5	<0.5	0
	Benzo(a)py	mg/kg	0.5							0.6	0.6	0							0.6	<0.5	18
	Benzo(a)py	mg/kg	0.5							1.2	1.2	0							**1.2**	**<0.5**	**82**
	Benzo(b,j)f	mg/kg	0.5							<0.5	<0.5	0							<0.5		
	Benzo(g,h,	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Benzo(k)flu	mg/kg	0.5							<0.5	<0.5	0							<0.5		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Dibenz(a,h	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Fluoranthe	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Indeno(1,2	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Naphthaler	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Naphthaler	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1.0	0	<0.5	<1.0	0	<0.5	<0.1	0
	Phenanthre	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)							<0.5	<0.5	0							<0.5	<0.1	0
	PAHs (Tota	mg/kg	0.5							<0.5	<0.5	0							<0.5		
romatic Hydrocarbons																					
Chlorinated	Hexachlorc	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
Benzenes																					
Organochlo	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interlab)							0.32	0.42	27							0.32	0.2	46
	Dieldrin	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	DDD	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	alpha-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	DDT	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	beta-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Chlordane	mg/kg	0.1							<0.1	<0.1	0							<0.1		
	delta-BHC	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endrin	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endrin alde	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Endrin ketc	mg/kg	0.05							<0.05	<0.05	0							<0.05		
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Lindane	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Methoxych	mg/kg	0.05 (Primary): 0.1 (Interlab)							<0.05	<0.05	0							<0.05	<0.1	0
	Toxaphene	mg/kg	1							<1.0	<1.0	0							<1.0		
rine Pesticides																					
Asbestos	Approx. Sa	G								570.0	693.0	19							570.0		
	Asbestos fi	%w/w								0.0	0.0	0							0.0		
	Mass ACM	G								0.0	0.0	0							0.0		
	Mass Asbe	G								0.0	0.0	0							0.0		
	Mass FA	G								0.0	0.0	0							0.0		
	Asbestos fi	%w/w								0.0	0.0	0							0.0		
	Mass Asbe	G								0.0	0.0	0							0.0		
	Mass AF	G								0.0	0.0	0							0.0		
	Mass Asbe	G								0.0	0.0	0							0.0		
	Mass Asbe	G								0.0	0.0	0							0.0		
Asbestos	Synthetic F	COMMENT								1.0	1.0	0							1.0		

Filter: SDG in('519296')

Field Duplicates (SOIL)
Filter: SDG in('519296'

		SDG	519296	519296		519296	519296		519296	519296		519296	ENVIROLAB 2016-10-11T00:00:00		519296	ENVIROLAB 2016-10-11T00:00:00		519296	ENVIROLAB 2016-10-11T00:00:00	
		Field ID	TP03_0-0.1	QC01	**RPD**	TP14_0.2-0.3	QC02	**RPD**	TP29_0-0.1	QC03	**RPD**	TP03_0-0.1	QC01A	**RPD**	TP14_0.2-0.3	QC02A	**RPD**	TP29_0-0.1	QC03A	**RPD**
		Sampled Date/Time	10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016		10/10/2016	10/10/2016	
Asbestos -	ACM - Con	COMMENT								1.0	1.0	0							1.0		
	AF - Comn	COMMENT								1.0	1.0	0							1.0		
	FA - Comn	COMMENT								1.0	1.0	0							1.0		
	Organic Fit	COMMENT								1.0	1.0	0							1.0		
	Respirable	COMMENT								1.0	1.0	0							1.0		
Trace Analysis																					
Other	% Moisture	%	1	17.0	19.0	11	16.0	15.0	6	15.0	15.0	0	17.0			16.0			15.0		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-20 x EQL); 30 (20-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Contents

Surrogate Variation > 30% or outside lab LCL or UCL

SDG	Expr1001	Lab_Report_Number	Sample_Type	Matrix_Type	SampleCode	Field_ID	Depth	Sampled_Date-Time	Compound	Recovery %	Unit	LCL	UCL	Lab_Qualifier	Lab_Comments
519296	519296	519296	Normal	SOIL	S16-Oc10337	TP01_0-0.1	TP010 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	67	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10338	TP02_0-0.1	TP020 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	147	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10341	TP03_0.2-0.3	TP030.2 - 0.3	10/10/2016	4-Bromofluorobenzene (surr.)	50	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10342	TP04_0-0.1	TP040 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	137	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10344	TP06_0-0.1	TP060 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	131	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10344	TP06_0-0.1	TP060 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	51	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10346	TP08_0-0.1	TP080 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	140	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10349	TP10_0-0.1	TP100 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	136	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10352	TP12_0-0.1	TP120 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	132	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10352	TP12_0-0.1	TP120 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	65	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10355	TP14_0-0.1	TP140 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	50	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10357	TP15_0-0.1	TP150 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	133	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10360	TP17_0-0.1	TP170 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	67	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10362	TP18_0-0.1	TP180 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	64	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10364	TP19_0-0.1	TP190 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	61	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10366	TP20_0-0.1	TP200 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	65	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10367	TP21_0-0.1	TP210 - 0.1	10/10/2016	Tetrachloro-m-xylene (surr.)	144	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10367	TP21_0-0.1	TP210 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	143	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10367	TP21_0-0.1	TP210 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	64	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10368	TP21_0.2-0.3	TP210.2 - 0.3	10/10/2016	4-Bromofluorobenzene (surr.)	69	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10369	TP22_0-0.1	TP220 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	64	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10369	TP22_0-0.1	TP220 - 0.1	10/10/2016	Tetrachloro-m-xylene (surr.)	59	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10370	TP23_0-0.1	TP230 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	137	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10370	TP23_0-0.1	TP230 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	61	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10370	TP23_0-0.1	TP230 - 0.1	10/10/2016	Tetrachloro-m-xylene (surr.)	138	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10371	TP23_0.2-0.3	TP230.2 - 0.3	10/10/2016	4-Bromofluorobenzene (surr.)	63	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10372	TP24_0-0.1	TP240 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	59	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10373	TP25_0-0.1	TP250 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	63	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10374	TP26_0-0.1	TP260 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	64	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10375	TP26_0.2-0.3	TP260.2 - 0.3	10/10/2016	4-Bromofluorobenzene (surr.)	67	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10376	TP27_0-0.1	TP270 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	141	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10378	TP28_0-0.1	TP280 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	67	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10380	TP30_0-0.1	TP300 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	66	%	50	150		
519296	519296	519296	Field_D	SOIL	S16-Oc10388	QC03	TP290 - 0.1	10/10/2016	Dibutylchlorendate (surr.)	142	%	50	150		
519296	519296	519296	Field_D	SOIL	S16-Oc10388	QC03	TP290 - 0.1	10/10/2016	4-Bromofluorobenzene (surr.)	68	%	50	150		
519296	519296	519296	Field_D	SOIL	S16-Oc10388	QC03	TP290 - 0.1	10/10/2016	Tetrachloro-m-xylene (surr.)	51	%	50	150		
519296	519296	519296	Rinsate	WATER	S16-Oc10389	RINS	RINS	10/10/2016	2-Fluorobiphenyl (surr.)	53	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10393	SS02_VEGE P.	VEGE PATCH	10/10/2016	Tetrachloro-m-xylene (surr.)	62	%	50	150		
519296	519296	519296	Normal	SOIL	S16-Oc10393	SS02_VEGE P.	VEGE PATCH	10/10/2016	Dibutylchlorendate (surr.)	149	%	50	150		

Contents

Less than 1 matrix spike in 20 samples, or less than 1 matrix duplicate in 20 samples

Matrix_Type	Number_of_Samples	Number_of_Matrix_Spike_Samples	Number_of_Matrix_Spike_Dupe_Samples
SOIL	96	10	0
WATER	21	5	0

Contents

Trip Spike Recoveries (70% - 130% is acceptable)

SDG	Lab_Report_Number	Matrix_Type	SampleCode	Field_ID	Method_Name	Compound	Trip_Spike_Result	Trip_Spike_Control	Result_Units	Spike_Recovery_%	Acceptable	Result_Type	Lab_Comments
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	Benzene	NA	NA	NA	84	Y	REG	
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	Ethylbenzene	NA	NA	NA	87	Y	REG	
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	m&p-Xylenes	NA	NA	NA	78	Y	REG	
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	o-Xylene	NA	NA	NA	80	Y	REG	
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	Toluene	NA	NA	NA	79	Y	REG	
519296	519296	WATER	S16-Oc10390	TS	TRH C6-C40 - LTM-ORG-2010	Xylenes - Total	NA	NA	NA	79	Y	REG	

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x Electronic	Mike Williams	21 October 2016
0	1 x Electronic	Mike Williams	27 October 2016

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
0	Seth Molinari Rohan Hammond	Seth Molinari	Seth Molinari		27/10/2016

www.jbsg.com.au