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REPORT



Phase I and Limited Phase II Environmental Site Assessment - Minto Warehouse and Logistics Hub, 5 and 9 Culverston Road, Minto, NSW

Submitted to:

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1.0 INTRODUCTION

Golder Associates (Golder) was engaged by Tactical Group (Tactical) on behalf of Qube to prepare a Phase I and limited Phase II environmental site assessment (ESA) to support the development application proposed by Qube.

This report relates to the proposed development of 5 and 9 Culverston Road, Minto (the Site), being legally described as Lot 3 in DP 817793 and Lot 400 in DP 875711, for the purpose of a Warehouse and Logistics Hub (the Proposal). The State Significant Development (SSD) application seeks approval for the construction and use of a Warehouse and Logistics Hub (the Proposal) that will play a vital role in the storage and distribution of goods for businesses and that will create employment opportunities. The proposal will involve:

- Bulk earthworks across the site to provide four (4) building pads;
- Provision of infrastructure and services;
- Four (4) Warehouse facilities;
- Ancillary hardstand areas, car parking and external storage hardstand area.

In total, the development will be carried out over three (3) stages as follows;

- Stage 1 – Warehouse 1A;
- Stage 2 – Warehouse 1B + 1C; and
- Stage 3 – Warehouse 1D

The site is currently used for industrial purposes comprising the storage and processing of motor vehicles and associated activity. The proposed operation of the site will be for the purpose of storage and distribution of Fast Moving Consumer Goods.

The Proposal seeks to establish an innovative operation that will benefit businesses that operate on a local and national scale.

The site is located within the Campbelltown Local Government Area (LGA) and is identified within the 4(b) Industry B zone pursuant to the Campbelltown (Urban Area) Local Environmental Plan 2002 (CLEP 2002). The proposed development is permissible with consent on the subject site. Under the provisions of Draft Campbelltown Local Environmental Plan 2014 (CLEP 2014) the site is zoned IN1 General Industrial Zone. The Proposal is permissible with development consent in the 4(b) Industry B Zone and the draft CLEP2014 IN1 General Industrial Zone and will be contextually appropriate.

No previous information on potential contamination risks had been identified, and the SSD application will need to be supported with an appropriate contamination assessment. Therefore the objective of this investigation was to consider and assess:

- The sources of potential contamination on the Site;
- The extent of contamination currently present on the Site
- The potential environmental and human health risks of contamination on the Site; and
- The need to undertake further investigation and / or remediation to address contamination which may present an unacceptable risk during the future use of the Site.

To achieve the investigation objectives a combined Phase 1 and limited Phase II ESA was completed in general accordance with the NSW Environmental Protection Authority (EPA) endorsed Guideline for Consultants Reporting on Contaminated Sites (OEHS, 2011). The Phase II investigations were limited as Golder access for intrusive investigations was not permitted in the central portion of Lot 400 DP875711.



1.1 Scope of Works

The ESA scope of works included:

- Phase 1 investigations which included desk top data collation, specifically:
 - Review of land use zoning for the site, sourced from Campbelltown City Council ('Council');
 - Campbelltown Local Environmental Plan 2014 (CLEP 2014);
 - Identification of contaminated sites listed on the NSW Environment Protection Authority's (EPA) website under either Section 58 or 60 of the Contaminated Land Management Act (CLM Act);
 - Review of the public register maintained under Section 308 of the *Protection of the Environment Operations Act 1997* (the POEO Act 1997);
 - Review of historical aerial photographs for the site;
 - Sourcing and review of a Section 149 planning certificate (under the *Environmental Planning and Assessment Act 1997* (the EP&A Act 1997) for the site.
 - Review of selected historical certificates of title for the site;
 - A search of the SafeWork, NSW files for records relating to historical storage of Dangerous Goods at the site (authorisation for search still pending);
 - Review of published maps and databases with site coverage to establish likely surface and subsurface conditions (including geology, hydrogeology, soil landscape, topography and likelihood of acid sulfate soils);
 - Search and review of information readily available through the internet (e.g. Department of Primary Industries (Water) (DPI (Water)) registered groundwater bore database within the vicinity (1000 m) of the site); and
 - A review of available existing environmental assessment reports relevant to the site.
 - Completion of a site inspection (including where possible interviews with site occupants with a knowledge of current and/or historical site activities) to verify site conditions compared to the document review, make a record of the general conditions and land uses, and to identify potential sources of contamination in the form of site facilities or infrastructure and to look for surface indicators of contamination;
- Completion of a limited Phase II intrusive investigation comprising soil and groundwater sampling. At the time of the investigations Golder were not permitted undertake intrusive investigations in the central portion of Lot 400 DP DP875711 because current site operations did not allow for these works to take place and thus, several areas of interest identified during the Phase 1 ESA were not subject to intrusive investigations. The scope of the limited Phase II investigations included:
 - Collection and analysis of soil samples collected from eight on-site boreholes (GA-BH01-GA-BH08), and four on-site hand auger locations (GA-HA01, GA-HA02, GA-HA03 and GA-HA04).
 - Installation of groundwater wells at four locations (GA-BH02, GA-BH04, GA-BH05 and GA-BH08) and collection of groundwater samples.
 - Comparison of the laboratory analytical results against selected applicable NSW EPA endorsed guidelines to assess the suitability of site for the proposed development.

The Secretary's Environmental Assessment Requirements (SEARs) was issued for the Proposed Warehouse and Logistics Hub on the 10th March 2016. The SEARs requirements addressed in this report are summarised in Table 1 below.



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Table 1: Secretary's Environmental Assessment Requirements (SEARs)

Requirement Category	Location (in SEARS Document)	Requirement	Section in report where requirement has been addressed	Comments
SEARs General Requirements	SEARs Requirements p.1	"Clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000."	Whole Report	
SEARs General Requirements (Key Issues)	SEARs Requirements p.2	"Soils and Water - including...An assessment of potential impacts of surface and groundwater impacts associated with the development."	Section 2.6 - Identified Potential Contamination Issues.	Only groundwater impacts have been assessed as there were no areas with surface water to investigate.
DPI Water – Groundwater Assessment	Attachment A, p. 7	"An assessment of the potential for groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal)."	3.1.2 - Groundwater Investigation, 3.3.4 - Groundwater Analytical Results, 3.5 Conceptual Site Model	
Technical and Policy Guidelines - Soils and Water (Groundwater)	Attachment 1 , p.5	"National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia" (ARMCANZ/ANZECC)	3.2.2 - Groundwater Investigation Levels	Groundwater Investigation Levels (GILs) used in this report were based on these guidelines.
NSW EPA – (Contaminated Land)	Attachment A, p. 4	"State Environmental Planning Policy (SEPP) 55...states that as a part of the development process the following key considerations should be addressed: • Whether the land is contaminated • If the land is contaminated	–Whole Report Conceptual Site Model, Section 3.3 - Summary of Investigation Results	



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		whether it is suitable in its contaminated state (or will be suitable after remediation) for all the purposes to which the land will be used. In cases where land is potentially contaminated, the investigation and any remediation and validation work is to be carried out in accordance with the guidelines made or approved under Section 105 of the <i>Contaminated Land Management Act 1997</i> and be in accordance with the requirements and procedures in the following: • <i>Contaminated Land Management Act 1997</i> • <i>Contaminated Land Management Act 2013</i> • <i>State Environmental Planning Policy</i>		
NSW Office of Environment and Heritage (Water and Soils)	Attachment A, page 2	"The EIS must map the following features relevant to water and soils including: (a) Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).... (c) Groundwater"	Section 2.4.2.3 – Acid Sulfate Soils, Section 3.1.2 - Groundwater Investigation, Section 3.3.4 - Groundwater Analytical Results	



2.0 SITE DESCRIPTION

The subject site is identified as 5 and 9 Culverston Road, Minto, being legally described as Lot 3 in DP 817793 and Lot 400 in DP 875711. The entire site exhibits an area of approximately 29.63 ha.

The Site has been historically developed for industry and is currently used for a vehicle storage and processing facility.

Existing attributes of the Site are noted as follows:

- Existing development on the Site comprises hardstand, shade structures and a warehouse building.
- The Site is generally clear of vegetation, with the exception of planting adjacent to the Site boundaries.
- Access is obtained via Culverston Road from the round-about intersection of Culverston Road and Airds Road.
- The site's eastern boundary corresponds with a drainage corridor and the Main Southern Railway line while the site's western boundary corresponds with the Bow Bowing Canal. The site's northern boundary also corresponds with a drainage channel.

Figures 1 and 2 below provide an overview of the site layout (as existing) and the surrounding land uses.

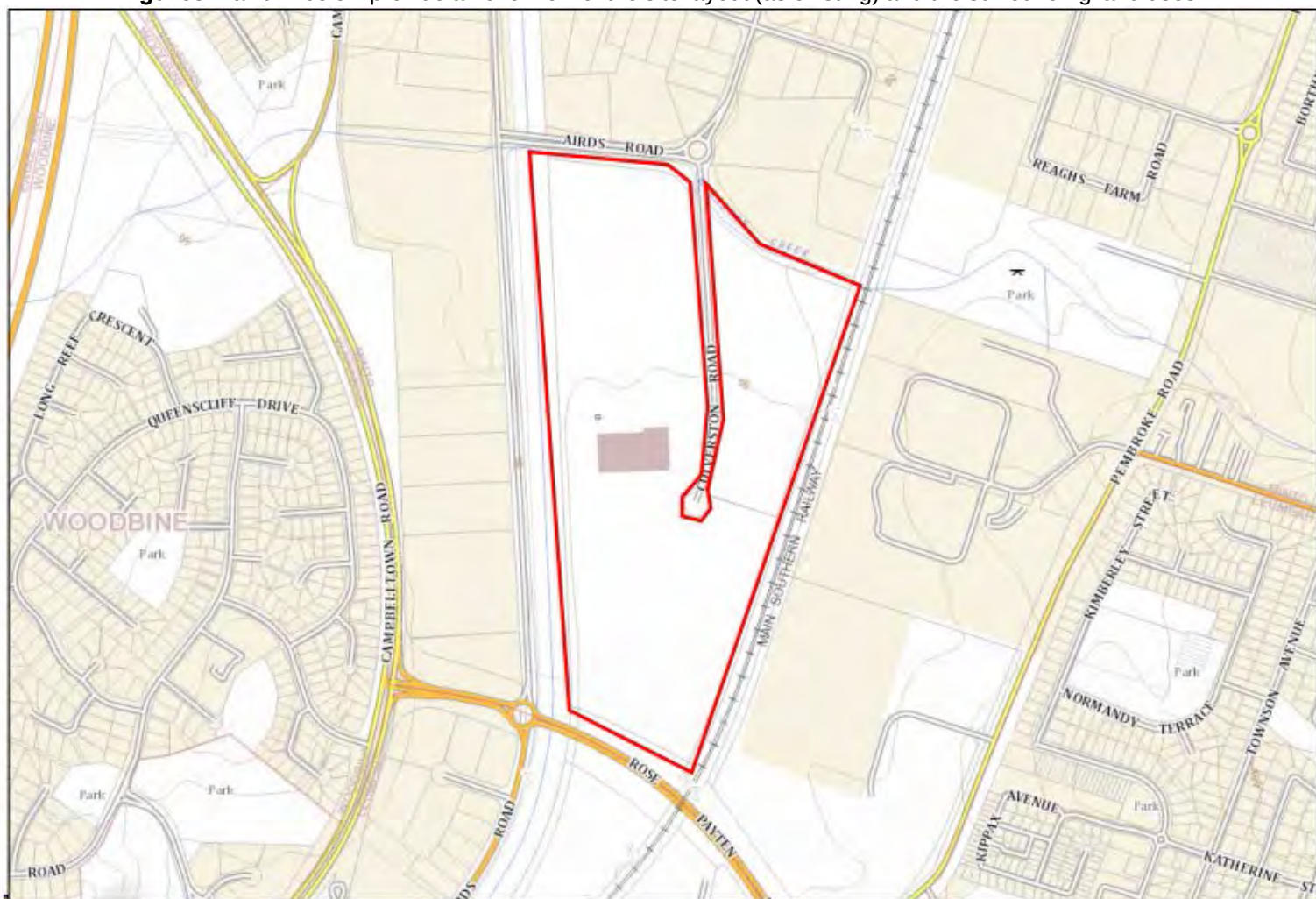


Figure 1: Subject Site (SIX Maps, 2016)



Figure 2: Subject Site (SIX Maps, 2016)

The site is located within the Campbelltown LGA to the south-west of the Sydney metropolitan area.

The site is serviced by major transport infrastructure providing local and regional connectivity including the Hume Motorway with access facilitated in close proximity of the site. Other major road infrastructure in the general vicinity of the site includes Narellan Road (A9), Camden Bypass, Camden Valley Way and the M7.

Located approximately 50 km from the Sydney CBD and 40 km from Sydney Airport, the site affords access to vital infrastructure which reinforces its suitability for warehousing and logistics purposes.

The regional context of the site is shown in **Figure 3**.

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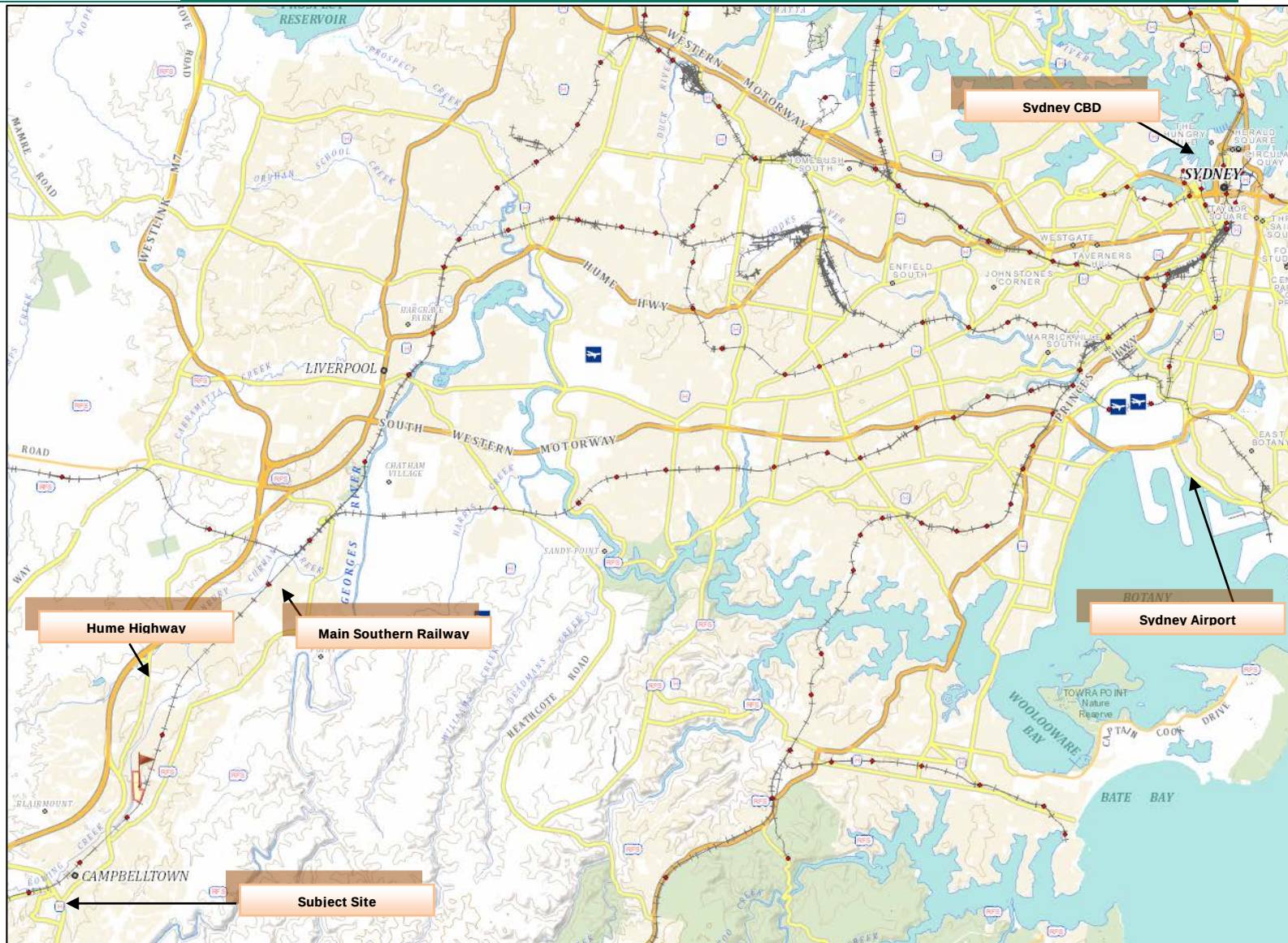


Figure 3: Site Context (Google Maps, 2016)



2.1 Site Location and Setting

Table 2 summarises the identification, location and setting of the site. A site plan showing the location is attached as **Figure 1**.

Table 2: Site Identification, Location and Setting

Item	Details
Street Address	5 & 9 Culverston Rd, Minto
Approximate Site Area	Approximately 300,000 m ² (30 ha)
Current Land Use	Automotive storage and logistics facility
Legal Property Description	Lot 400 DP 875711; Lot 3 DP 817793
Approximate Geographic Co-ordinates	34°02'35.28"S; 150°50'2.64"E
Local Government Area and Land Use Zoning	Campbelltown City Council LGA Lot 400 DP 875711: IN1 – General Industrial Lot 3 DP 589915: SP2 - Infrastructure

2.2 Current Site Description

The site currently operates as an automotive storage facility, which involves the storage and logistics of roughly 10,000 vehicles, with approximately 90% of the facility used for vehicle storage. There are six industrial buildings on site, including one large industrial building (for administrative and vehicle-related activities) called the warehouse, which includes the 'build shed.' There is netting/shade cloth over a large portion of the Site.

A site plan is attached as **Figure 2**.

2.2.1 Surrounding Land Use

The site is located in an area with mainly commercial/industrial development in the immediate vicinity. Main Southern Railway is located to the east of the Site. The surrounding land uses noted at the time of the Phase 1 ESA site inspection are identified in **Table 3**.

Table 3: Surrounding Land Use

Direction	Description
North	Airds Rd then industrial properties
South	Rose Payten Drive then industrial properties and Campbelltown Sports Stadium
East	Main Southern Railway then industrial properties, then residential development
West	Airds Rd then industrial properties then the Hume Motorway (M5)

The site exhibits three (3) street frontages being Airds Road to the north and west and Rose Payten Drive to the south which is elevated in respect of the site. The site is also transected by Culverston Road running north-west through the northern and central portions of the site. To the east the site adjoins a drainage corridor and the Main Southern Railway line.

The subject site is surrounded by similar industrial and warehouse development. The site is also in reasonable proximity of Pembroke Park, the Campbelltown Sports Stadium and other recreational infrastructure. The nearest residential development is located approximately 300 m to the west of the site and comprises low-density suburbs.



2.3 Site Inspection

An inspection of the site was performed on 09 February 2016, between 9.00am and 11.30am. The inspection was performed by Andrew Holloway and Natalie Sandy of Golder and intended to visually assess the site and to obtain information on potential site contamination, which considered the following aspects:

- potential for historic or current dumping of waste
- presence of fill materials
- presence of sensitive receptors
- presence of drainage channels or natural watercourses
- presence of historic or existing structures
- surrounding land uses.

Photographs taken during the inspection are presented in **Appendix C**. Meteorological conditions during the inspection were sunny and clear. Representatives of the site, Mr Phil O'Toole (HS&E Co-ordinator) and Mr Glen Shaw (Yard Manager), were interviewed during the site inspection. Mr Shaw had been working at the Site since 2010. Mr O'Toole had worked at the Site for six months and accompanied Golder staff for the site inspection.

Pre-site inspection interviews were undertaken with both site representatives. To the best of their knowledge, they understood that the current facility was constructed in the 1990s and was previously a swamp that was filled in to achieve the current ground levels. No digging was undertaken to their knowledge. They informed Golder that 90% of the cars are brand new, with the majority of the cars shipped in from overseas. The site activities were described as car storage, car washing and vehicle refuelling. An on-site filtration plant and oil/water separator treats wastewater generated from the washing down of cars. All solid waste was disposed off-site with hazardous waste removed by an external company. There were no major spills, to their knowledge, that have occurred in the past ten years and no major contamination concerns present on site.

During the site inspection, it was observed that the site is low lying, with a relatively flat topography, which was contrasted with steep ditches and mounds surrounding the Site boundary for security purposes to prevent the theft of cars (see Appendix C, Photographs 29, 30, 37, 44).

Facilities and structures observed on Site included a large warehouse (Appendix C, Photographs 6 & 35) several smaller buildings (Appendix C, Photograph 35) and tents (Appendix C, Photograph 34).

The large warehouse is comprised of a 'build shed' (Appendix C, Photographs 2 & 3) and an administration building. Activities such as car detailing and painting were conducted in the build shed, as were the storage and handling of paints (including small volume oils, paints, solvent and thinners). These materials were stored in 200 L waste drums and in steel cabinets. (Appendix C, Photographs 4, 7 & 8) The warehouse also featured three automotive spray paint booths (Appendix C, Photographs 6) in operation. The warehouse had a sealed concrete floor with no visible cracking. A small building containing additional car wash bays was present to the east of the warehouse and was reportedly used for speciality vehicle fit-outs was present east of the warehouse. Golder was permitted to view but not photograph the interior of this building.

The majority of the site was bitumen sealed with approximately 10,000 small vehicles stored on Site. The condition of the bitumen ranged from fair to good, with some potholing and cracks observed. Portions over the site were not sealed and were covered in gravel.

The boundary of the Site was lit with overhanging lampposts and surrounded by an electric fence. Screened stormwater drains were observed around the Site which presumably discharge into off-site concrete stormwater channels running adjacent to the property (Appendix C, Photograph 27).

Three bunded above-ground storage tanks (ASTs) were present in the centre of the Site (Appendix C, Photographs 11-13), with two in use at the time of the site visit. The tanks' contents were as follows:



- unleaded petroleum (ULP) (5,000 L)
- diesel (5,000 L)
- kerosene (volume not confirmed during the site visit, and not in use at the time of the inspection).

The ULP tank was sunk into an uncovered concrete-lined storage vessel. According to the site representatives, the two operational tanks are used to supply the on-site vehicles with small quantities of fuel. Kerosene had previously been used as a stripping / thinning agent in the vehicle painting activities. Dispensing of fuel from the tanks occurs via bowsers located inside the tank bund. All pipe work in the area was above ground. The tanks were in fair condition and with some rusting observed on the kerosene tank. Minor hydrocarbon staining was observed on the floor in the vicinity of the tanks. A small stockpile of recently excavated soils was present adjacent to the tank area. Upon manual disturbance, the soil emitted a slight hydrocarbon odour. The origin and nature of this stockpile and the purposes and extent of the excavation is unknown.

Services identified on site included an electric fence network (Appendix C, Photograph 25), street lights with power located underground (Appendix C, Photograph 23), telecommunications and a water/fire main.

Several large grassed mounds were observed during the site visit. The origin of this soil was unknown. There were some earthworks evident with some cut and fill present along the borders of the Site (Appendix C, Photograph 32)..

2.4 Environmental Setting

2.4.1 Topography and Drainage

The site has relatively flat topography, with an elevation of 46-53 metres Australian Height Datum (m AHD) (Google Earth, 2015). The elevation gradually declines to the north. The site is surrounded by steep ditches and mounds to the east, south and west of the site. These ditches are for security reasons to prevent car theft.

There are surface water drains that are located near the boundary of the Site and stormwater channels that surround the Site. Drainage of the Site is connected to the municipal stormwater system and drains into the adjacent channels and into the Bow Bowing River, which flows north.

2.4.2 Geology and Hydrogeology

2.4.2.1 Fill

Based on aerial photos, there was a creek that historically ran through the Site and there is visual evidence that there was a creek realignment that took place. The former creek and creek bed would have been filled with imported materials and the site flattened for commercial use. This appears to have occurred between 1970-1975. As such the Site is likely underlain by fill and topsoil of variable depth. More recently, fill appears to have been imported under controlled conditions to create boundary buffers for security.

2.4.2.2 Soils and Landscapes

Based on review of on-line mapping on the eSPADE web site residual soil at the Site would be part of the Blacktown and South Creek landscape. Soils of the Blacktown landscape are typically shallow to moderately deep *Red* and *Brown Podzolic Soils* on crests, upper slopes and well-drained areas. Deeper *Yellow Podzolic Soils* and *Soloths* are present on lower slopes and in areas of poor drainage. Soils at the Site would be expected to have moderately reactive and highly plastic subsoils and exhibit low soil fertility and poor drainage (Chapman et al 1989). This is most likely to have been overlain by fill materials from an unknown source.

No soil landscape report for South Creek is available.



2.4.2.3 Acid Sulfate Soils

Acid sulfate soil (ASS) planning sheets associated with the CLEP 2015 were not found in order to identify ASS in the council area. ASS planning maps were originally prepared by the NSW Department of Land and Water Conservation to indicate the potential presence of ASS, rather than the severity of ASS at a particular location. The planning maps identify five classes of ASS (Class 1 to Class 5) and identify types of works likely to present an environmental risk for each class of land (ASSMAC, 1998). If the types of work are proposed in an area identified with potential ASS, further investigations are required to confirm the presence of ASS, and if present, the potential risk to the environment. Further investigations and development consent may be required for work on Class 5 land within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water table is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

On-line ASS mapping hosted by the Australian Soil Resource Information System (ASRIS) was reviewed through a Google Earth interface. The ASRIS mapping is based on existing data sets which have been converted to a national classification system (ASRIS, 2011). ASRIS shows the majority of the site as located in an area of "Low probability" of ASS.

2.4.2.4 Geology

A review of the NSWGeologyPlus (Geological Survey of NSW, LPI NSW, METI & NASA) geological map on the NSW Resource and Energy website indicates that the site is located in an area mapped with Quaternary alluvial deposits as the underlying formation. These sediments comprise recent mud, silt, sand and gravel deposited by river (alluvial) systems.

2.4.2.5 Hydrogeology

A search of on-line records held by the NSW Department of Primary Industry Office of Water was performed on 4th February 2016. The search indicated there were three licensed groundwater bores located within 1000 m of the site. These groundwater bores were all property of Integral Energy, privately owned and were intended for monitoring purposes. The results of the search are summarised in **Table 4** and **Appendix D**.

From the groundwater bores in the area, standing water level is expected to occur between 1.4 m and 6.3 m below ground level (mbgl) and these levels may be influenced by rain and seasonal fluctuations. Water bearing zones within the licenced bores ranged from 11.5m to 13.1m bgl.

Table 4: Summary of Groundwater Bore Information

Bore	Approximate distance and direction from site	Depth (m)	Standing water level (m bgl)	Comments
GW110577	~700m E	15	6.3	WBZ 14.0 to 15.0m; Geology logged as Fill (Clayey Gravel) 0.2-0.5m, Fill (Gravelly Clay 0.5-2.0m and Sandstone 2.0-15.0m
GW110576	~700m E	13.1	1.4	WBZ 13.0 to 13.1m; Geology logged as Fill (Sandy Silt) 0.3-1.0, Sandy Clay 1.0-1.8m and then Sandstone 1.8-13.1m



Bore	Approximate distance and direction from site	Depth (m)	Standing water level (m bgl)	Comments
GW110575	~700m E	14.2	4.3	WBZ 11.5 to 14.2m (2.7m thick); Geology logged as Fill (Sandy Clay) 0.30-2.0m, Gravelly Sand 2-2.5m and then Sandstone 2.5-14.20m

Notes

:- no information provided

m: metres

mbgl: metres below ground level

WBZ: water bearing zone

mg/L: milligrams per litre

2.4.2.6 Climate

Meteorological conditions at the site have been inferred from long term records for the Campbelltown (Mount Annan) meteorological station, which is located approximately 5.5 km to the south west of the site. According to historical records obtained by Weatherzone.com.au, the mean annual rainfall is in the order of 803.6 mm, the wettest month being February and the driest month being August. The mean number of days in a year with rain is 102 days. The mean maximum temperature is 23.9 °C and mean minimum temperature 10.9°C. The warmest and coldest months are January and July, respectively.

2.5 Site History

2.5.1 Sources of Information

Golder undertook an historical review to provide information on previous land use and activities at the site and in the surrounding area, which may have contributed to site contamination. The following information sources were reviewed/ consulted:

- Historical aerial photographs from the period 1947 to 2016;
- Current and historical Certificates of Title; and
- Interviews with site personnel with knowledge of the site since 2010;

The outcomes of the site historical review are provided in the following sections.

2.5.2 Historical Aerial Photographs

Historical aerial photographs from 1947, 1966, 1970, 1975, 1984, 1990, 1994 and 2005 were obtained from NSW Land and Property Information (LPI) for review. Imagery from February 2016 was observed via Nearmap. Copies of the aerial photographs referenced above are included in **Appendix E**.

The aerial photograph review was conducted to ascertain a general history of the development of the site and surrounding area. This review is summarised in Table 5.



Table 5: Historical Aerial Photograph Review

Year	Observations
1947	Site: The Site appears to be primarily undeveloped land with minimal trees/vegetation present. A river appears to meander through the western side of the Site. Surrounding area: To the immediate north, south and east was undeveloped land. To the immediate east was a railway line (consistent with the Main Southern Railway line) and approximately 300 m to the west was a road. The extended surrounding area to the northeast, east and south showed cleared areas of land.
1966	Site: The river appeared to run through the middle of the Site with larger meanders observed. More trees and vegetation following the route of the watercourse was present than in the 1947 imagery. Surrounding area: The cleared land previously visible in the 1947 imagery appeared to have diminished with some visible land disturbance. Residential properties were visible in the extended surrounding area to the east and northeast. To the immediate southeast is the outline of an oval.
1970	Site: The Site appears similar to that shown in the 1966 imagery, with slightly more vegetation/trees visible. Surrounding area: Construction works appeared to be underway, adjacent to the western border of the Site. A dense residential zone was visible approximately 800 m to the south of the Site.
1975	Site: The Site appeared to be cleared with visible soil disturbance and apparent filling with stockpiling and earth works occurring, particularly in the northeast corner of the Site. Surrounding area: The extended surrounding area to the immediate and greater north, northeast, north west and west appeared to be cleared land. A developing watercourse and road ran along the western border of the Site boundary. The road to the east (approximately 500 m), which is consistent with the layout of the current Hume Highway, was visibly upgraded since the 1970 imagery.
1984	Site: The Site appeared similar to that shown in the 1975 imagery. Surrounding area: Commercial/industrial properties are visible to the extended surrounding area in the west, north, northeast and east. Further residential development was visible to the extended surrounding area to the east, south, southeast and east. A sports stadium was visible to the south of the Site (approximately 200 m).
1990	Site: The Site appeared to be cleared land with a different soil colour (pale brown) to the previous imagery. The river course was no longer visible and there was a path in the middle of the Site that was more prominent and appeared to be further developed. Another appeared to be developed down the eastern boundary of the Site. Surrounding area: The surrounding area appeared similar to the 1984 imagery. The roads in the area appear to have been widened and further developed.
1994	Site: The Site appeared to be cleared land with a different soil colour (dark brown) to the previous imagery, suggesting the surface of the site has been disturbed. Surrounding area: The surrounding area appeared similar to the 1990 imagery.
2005	Site: The Site has visible commercial/industrial properties and is consistent with the current Site layout. Many vehicles (in lines) are visible on the Site and cover the majority of the Site. The on-site road develops into a cul-de-sac. Surrounding area: The surrounding area appeared similar to the 1994 imagery.
2016	Site: The Site appears to be consistent with the 2005 imagery. Surrounding area: The surrounding area appeared similar to the 2005 imagery.



2.5.3 Historical Certificates of Titles

A summary of the historical ownership of the site is presented in **Table 6**. Copies of selected Certificates of Title are included as **Appendix F**.

Table 6: Summary of Land Title Information

Year	Source	Comments
Current Title		
2015	Lot 400 DP 875711	Owner of lot 400 DP 875711 identified as Minto Properties Pty Ltd
2005	Lot 3 DP 817793	Owner of lot 3 DP 817793 identified as Minto Properties Pty Ltd
Historical Title		
1985	Vol 14063 Fol 222	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the Director, Macarthur Growth Area
1985	Vol 14783 Fol 17	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the Director, Macarthur Growth Area
1985	Vol 14063 Fol 222	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the Director, Macarthur Growth Area
1982	Vol 14783 Fol 17	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the New South Wales Planning and Environment Commission
1980	Vol 14243 Fol 108	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the New South Wales Planning and Environment Commission
1980	Vol 14063 Fol 222	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the New South Wales Planning and Environment Commission
1976	Vol 13106 Fol 42	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the New South Wales Planning and Environment Commission
1972	Vol 11924 Fol 188	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the State Planning Authority of New South Wales
1970	Vol 11276 Fol 219	Owner of land comprising of current Lot 400 DP 875711 and lot 3 DP 589915 identified as the State Planning Authority of New South Wales

2.5.4 Site History Summary

Using information from the land title searches, it was revealed that the land was previously owned by a dairyman and private occupiers prior to be acquired by the State Planning Authority in 1970. In the aerial photographs, the land appeared to be undeveloped from at least the 1940s until the 1970. The land was cleared and visibly disturbed from 1975 onwards and the land was then owned by State Planning Authority of New South Wales in the early to mid-1970s, successively the New South Wales Planning and Environment Commission in the from mid 1970s to the early 1980s and then The Director of the Macarthur Growth Area in 1985. The aerial photographs show that from 1994 onwards, the Site layout was relatively consistent with the present state. Filling appears to have occurred between 1970 and 1975 as there was visible land disturbance between this time. The site is currently owned by Minto Properties Pty Ltd (Lot 400 DP 875711) as of 2015.



2.5.5 Previous Environmental Assessment Reports

No reports were provided or made available at the time of the investigations.

2.5.6 NSW Environment Protection Authority

A search of online records held by the NSW EPA was completed. The search findings are presented below.

2.5.6.1 CLM Act Notices

An on-line search on 4 February 2016 of the EPA's "Record of Notices" issued under the *Contaminated Land Management Act 1997 (CLM Act 1997)* did not identify this project as being subject to current or prior notices. One site within the Campbelltown City Council local government area (LGA) was identified as having current or former notices issued under the provisions of the *CLM Act 1997*. The search indicated that the closest premise with a current or former notice is located approximately 2.8 km from the site. Based on this distance, it is considered that the premises identified in the search would have a low potential to impact upon the site. A copy of the results of the notice search is provided in **Appendix G**.

2.5.6.2 Notifications under Section 60 of the CLM Act

The NSW EPA maintains a "List of NSW contaminated sites notified to the EPA" under Section 60 of the *CLM Act 1997*. Sites on this list indicate that the notifiers consider that the sites are contaminated and warrant reporting to EPA. The contamination at the site may or may not be significant enough to warrant regulation by the EPA and the EPA reviews relevant site information before making a determination as to whether or not the site warrants regulation. An online search for notified sites in Minto was performed on 4 February 2016. The search results indicated that there were no sites found within 500m of the Site.

A copy of the results of the notification search is provided in **Appendix G**.

2.5.6.3 EPLs under the POEO Act

The NSW EPA maintains a public register of premises subject to an Environment Protection Licence (EPL) under the *Protection of the Environment and Operations (POEO) Act*.

An online search for premises in Minto was performed on 4th February 2016. The result of the search, limited to premises within 500 m of the site, is presented in the table below.

Table 7: EPL Search Results

Premises	Approximate distance and direction from site	Activity type	License status
FRH Group Pty Ltd	50 m N of Site	Bitumen Pre-Mix or Hot-Mix Production	Issued
Environmental Treatment Solutions Pty Ltd	250 m N of Site	Waste storage – hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	Pending
John White Maltings Pty Ltd (Cargill Malt Asia Pacific)	500 m NE of Site	General agricultural processing	Issued
Lipa Pharmaceuticals Ltd	420 m NE of Site	Chemical production waste generation; pharmaceutical and veterinary products production	Issued



Premises	Approximate distance and direction from site	Activity type	License status
Toyo Tyre & Rubber Australia Ltd	200 m W of Site	General chemicals storage; rubber products/tyre production	Issued
Minto Recycling Pty Ltd	200 m N of Site	Non-thermal treatment of general waste	Issued
Streets Ice Cream (Unilever)	250 m E of Site	Agricultural (dairy) processing	Issued

A copy of the results of the EPL search is provided in **Appendix G**.

2.5.7 SafeWork NSW Dangerous Goods Records

A search of the SafeWork NSW files for records relating to historical storage of Dangerous Goods at the Site was requested by Golder. SafeWork NSW advised that a search of their Stored Chemical Information Database (SCID) and microfiche records did not locate any records relating to the Site.

A copy of the SafeWork search results is presented in **Appendix H**.

2.5.8 Local Council

A Section 149 (2) & (5) planning certificate for the Site, issued under Section 149 of the *E&PA Act*, was obtained from Council. The planning certificate, issued on 10 February 2016 is summarised below: .

- The site is zoned IN1 General Industrial
- The land is not affected by any matter listed in Clause 59(2) of the CLM Act, i.e. the land is not significantly contaminated, is not the subject to a management order, is not the subject of an approved voluntary management proposal and is not subject to an ongoing maintenance order; and
- The land is not affected by a policy adopted by Council which would restrict development because of the likelihood of land slip, bush fire, tidal inundation, subsidence, acid sulfate soils or any other risk, except flooding. All properties within the Campbelltown City Council LGA may be affected by flooding caused by overland flow or local topography.

A copy of the Section 149 (2) & (5) for Lot 400 DP 875711 planning certificate is presented in **Appendix I**.

2.6 Identified Potential Contaminated Issues

Based on the findings of the Phase 1 ESA, Golder established that key potential sources of contamination for the site are generally related to historical filling and ongoing use of the site for vehicle storage and logistics. Table 8 presents the key contamination issues and contaminants identified for the site and contaminants of potential concern (COPC). It also presents potential contaminants of concern that may be associated with these activities.

For the purposes of the Phase 1 ESA, the following qualitative risk framework was applied:

- **Low:** the potentially contaminating activities and related contaminants of concern likely pose no risk, or have a low potential for environmental impact. Any impact is likely confined to the area of operations. The impact is unlikely to pose a compliance risk from regulators.
- **Medium:** the potentially contaminating activities and related contaminants of concern likely have potential for moderate environmental impact. Any impact is likely contained within the area of operations. There is potential for regulator interest.



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- **High:** the potentially contaminating activities and related contaminants of concern could pose significant environmental impact. There is potential for impacts outside the area of operations or to environmental receptors. There is potential for a breach of regulation or standards

Table 8: Potential Sources and Contaminants of Concern

Onsite			
Potential Contamination Source	Description	Potential Contaminants of Concern	Potential for Contamination
Vehicle storage and miscellaneous vehicle activities	The Site has been operating as an industrial property and transport facility since at least 2005. The site stores approximately 10,000 vehicles. Vehicle related activities include painting and car washing.	TRH, BTEX, metals, solvents, acids/alkalis, resins, chlorinated hydrocarbons (VOCs / SVOCs), antifreeze, detergents (phosphates, ammonia, alcohols, esters)	Medium
Storage and use of chemicals in the warehouse	Small volume oils, paints, solvent and thinners stored in drums and steel cabinet.	TRH, solvents, phenols, metals, alkalis, acids	Medium
Fuel storage	ASTs containing ULP, diesel and kerosene.	TRH, BTEX, PAH, Phenols, Lead	Medium
Imported fill	Fill has most likely been imported from unknown sources.	TRH, PAH, metals, OCPs, OPPs, PCBs and Asbestos	Medium
Agricultural activities	Formerly owned by dairyman in 1930s	OCP & OPP, nutrients.	Low
Off-site			
Potential Contamination Sources	Description	Potential Contaminants of Concern	Likelihood of contamination to soil and groundwater
Bitumen mixing activities (Fulton Hogan)	This facility is to the immediate north of the Site and involves the use and storage of hydrocarbons and chemicals and continual heating. Although this facility is in close proximity, it is down-gradient of the Site.	TRH, PAHs, solvents (VOCs / SVOCs)	Low
Tyre manufacturing and chemical storage activities (Toyo Tyre and Rubber)	Toyo Tyre and Rubber is located 50 m W of the Site. The industrial building has existed since the 1970s (previous uses are not known).	Rubber, carbon black, metals, and solvents	Low



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Onsite

Recycling and waste storage activities	Minto Recycling Facility and Environmental Treatment Solutions (Waste Storage facility) are positioned 200 m N of Site.	TRH, PAH, MAH, OCP, and PCB, metals and solvents (Minto Recycling), hazardous/restricted waste, asbestos, metals (Environmental Treatment Solutions).	Low
Food/dairy processing activities (Streets Ice Cream Factory)	The Streets Ice Cream factory is located 50 m E of the Site	Nutrients, biological oxygen demand, total suspended solids, oil and grease	Low
Industrial activities	The surrounding area has been an industrial area since the 1990s.	Metals, TRH, MAH, PAH, , solvents, phosphates and sulfates	Low

Notes

TRH – Total recoverable hydrocarbons

BTEXN – Benzene, toluene, ethylbenzene, xylene, naphthalene

PAH – Polycyclic aromatic hydrocarbons

OCP – Organochlorine pesticides

OPP – Organophosphate pesticides

PCB – Polychlorinated biphenyls

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

VOC – Volatile Organic Compounds

SVOC – Semi-Volatile Organic Compounds

MAH – Monocyclic Aromatic Hydrocarbons

In summary:

- There is medium to high potential for soil and groundwater contamination due to historical activities within the site, particularly associated with the fuel storage facilities and historic filling of the Site with materials from an unknown source; and
- There is a low potential for impacts to soil and groundwater due to historical activities off-site.

The risk ranking is intended to indicate the potential need to further assess soil and/or groundwater in the vicinity of potential contamination, taking into consideration the sources, pathways and receptors at the Site. It should be noted that the ranking is not intended to infer severity or extent of impact. For example, it may be that the potential soil impact (if any) is relatively localised and minor in nature.



3.0 PHASE II ESA

3.1 Investigation Methodology

3.1.1 Borehole Drilling, Monitoring Well Installation and Hand Auger Drilling

Eight boreholes (GA-BH01 to GA-BH08) were advanced using push tube methods. Boreholes were advanced to maximum depths of 3.0 to 8.0 m bgl and were backfilled with drilling spoil upon completion of the investigation. Four hand auger locations (GA-HA01 to GA-HA04) were advanced into the earth mounds identified on the perimeter of the site. Access for intrusive investigations to the central warehouse area was restricted and therefore the positioning of the soil bores was adjusted to accommodate access permissions.

Soil samples were collected from the boreholes for field screening and possible chemical testing at the near surface, 0.5 m bgs, 1.0 m bgs, and at every meter thereafter. Soil samples were screened in the field using a photo ionisation detector (PID) to assess for the presence of ionisable VOCs within the soil and visual and olfactory methods were used to log the materials encountered in the borehole.

Four monitoring wells were installed. The relative location and monitoring purpose of the wells is as follows:

- **GA-BH08:** located onsite, adjacent to the southern site boundary. This well is interpreted to be a background well for the purposes of groundwater quality, which reflects the ambient groundwater quality entering the site (from the south).
- **GA-BH02:** located onsite, near the northern site boundary. This well is interpreted to be a hydraulically downgradient well. Its water quality should represent groundwater leaving the site and therefore any impacts on groundwater quality identified in this well may result from on-site activities.
- **GA-BH05:** located onsite, near the north-eastern site boundary. This well is interpreted to be lateral to the inferred groundwater flow direction beneath the site (approximately north-north-west). Its water quality should represent groundwater entering the site from this direction and therefore may show impacts caused by off-site activities.
- **GA-BH04:** located onsite, This well is interpreted to be upgradient of the central warehouse. Its water quality should represent groundwater affected by the southern half of the site comprising vehicle storage lots and therefore may show impacts caused by activities associated with vehicle storage.

Details of the drilling, monitoring well installation and hand auger drilling methodology are summarised in Table 9. Locations are presented on Figure 3 (Appendix A) and the soil borehole and monitoring well installation logs are presented in Appendix J.



Table 9: Field Activities - Drilling

Activity	Details
Date of Field Works	15 to 17 th February 2016
Concrete coring	Concrete coring was required at two locations (GA-BH07 and GA-BH08 - asphalt).
Drilling	Drilling locations were cleared by a qualified service locator prior to mechanic drilling. Solid flight augers were used at all soil bore locations (GA-BH01 to GA-BH02). Hand auger drilling was used at four locations (GA-HA01 to GA-HA04) where mounds of soil were identified during the site walkover.
Bores Drilled and Target Depths	A total of eight soil bores were drilled to depths ranging from 3.0 and 8.0 mbgl. Drilling was terminated when the target depth was reached. Four of the eight soil boreholes were converted into groundwater monitoring well locations, terminating at depths ranging from 7.15 mbgl to 8.0 mbgl. Hand auger sample locations were augered to target depths below the top of the stockpile.
Soil Sampling	During the drilling and well installation process, soil samples were collected from each borehole at the following indicative depth intervals: surface to 0.2 mbgl (near surface sample), 0.5 mbgl, 1.0 mbgl and at every 1-2 metres thereafter until natural soil was reached. One to two samples were collected from the natural soils.
Soil Screening	Collected soil samples were screened in the field using a PID for the potential presence of VOCs.
Groundwater Monitoring Well Construction	The four wells were constructed with 50 millimetre (mm), Class 18 Unplasticised Poly Vinyl Chloride (uPVC) threaded screen and casing. Well caps and plugs were fitted to bottom and top of wells, respectively. Screened sections were backfilled with sand and topped with a seal (above top of screen) of bentonite and soil cuttings of at least 0.5 m thickness. The remaining volume of the well annulus was backfilled using cement slurry.
Groundwater Monitoring Well Development	Following installation of groundwater monitoring wells, each well was developed by removing a minimum of three bore volumes of groundwater or until the well was purged dry. Well development was conducted using footvalve techniques. Purged groundwater was stored on-site in appropriately labelled 205 Litre (L) drums and are currently secured onsite.
Decontamination Procedure	The split spoon was decontaminated between samples with Decon 90 solution and rinsed with potable water. Augers were washed in between sample locations.
Sample Preservation and Handling	Collected soil samples were placed in soil jars prepared and supplied by the laboratory and placed on ice, in eskies whilst on-site and in transit to the laboratory, under chain of custody (CoC) procedure.
Disposal of Soil Cuttings	Soil cuttings were blended with bentonite and used to backfill the monitoring well casing. Additional cuttings were disposed in an approved location on site.

Soil samples from each drilling location were submitted to SGS Environmental (SGS) for analysis of total recoverable hydrocarbons (TRH), benzene, toluene, ethyl benzene and xylene (BTEX compounds), metals, VOCs, semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), speciated phenols, organochlorine pesticides (OCPs), organophosphorus pesticides (OPPs), polycyclic biphenyls (PCBs) and asbestos. Hand auger samples were submitted for analysis of TRH, BTEX, PAH and metals.



Quality assessment and quality control (QA/QC) samples, including one (1) field duplicate and one (1) field triplicate sample, were collected for laboratory analysis. The field triplicate sample was submitted to ALS Laboratories Pty Ltd (ALS) for analysis. Both of the laboratories are accredited by National Association of Testing Authorities (NATA).

In addition, two (2) rinsate samples (i.e. one rinsate sample per day) were prepared to assess the field decontamination procedures.

3.1.2 Groundwater Investigation

One groundwater monitoring event (GME) was undertaken during the assessment. Details of groundwater investigation methodology are summarised in the table below. Locations of the monitoring wells are presented on Figure 3 (Appendix A).

Table 10: Field Activities – Groundwater Sampling

Activity	Details
Date of Field Works	26 th February 2016
Well Survey	Newly installed groundwater monitoring wells were surveyed during well construction. A GMW was scheduled to obtain groundwater elevations in metres Australian Height Datum (mAHD).
Well Gauging	Standing water levels (SWLs) were measured prior to purging and sampling using an interface probe. Groundwater gauging data are presented in Table 4 (Appendix B).
Well Purging	Each of the groundwater monitoring wells was purged by removing sufficient volumes of water until field parameters had stabilised. Visual/olfactory observations were also recorded during purging. Physio-chemical parameters recorded included pH, electrical conductivity (EC), redox potential, dissolved oxygen (DO) and temperature were measured ex-situ using a calibrated water quality meter. Field parameters are presented in Table 5 (Appendix B).
Groundwater Sampling	Groundwater samples were collected from the groundwater monitoring wells using a peristaltic pump with dedicated HDPE tubing.
Decontamination Procedure	Decontamination was not required for most sampling equipment as it was dedicated for each individual well. The interface probe was washed in Decon 90 solution and rinsed with potable water between measurements.
Sample Preservation and Handling	Groundwater samples were placed in containers prepared and supplied by the laboratory and placed in eskies containing ice whilst on-site and in transit to the laboratory, under Golder's chain of custody procedure. In addition, groundwater samples for metals analysis were field filtered using sterile disposable 0.45 micrometre (μm) Stericups and stored in the laboratory supplied bottles preserved with nitric acid.
Disposal of Water Waste	Purged groundwater was disposed of on-site into a wastewater container.

Collected groundwater samples from the newly installed and existing groundwater monitoring wells were submitted to SGS for the analysis of TPH, BTEX, OCPs/OPP/PCBs and 8 metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc). QA/QC samples, including one (1) field duplicate samples and one (1) field triplicate samples (submitted to ALS for analysis), were also collected for laboratory analysis. The groundwater purge records and calibration certificates can be seen in Appendix L.



3.2 Adopted Site Assessment Guidelines

3.2.1 Soil Investigation Levels

3.2.1.1 Health Screening Levels (HSLs)

The Assessment of Site Contamination National Environment Protection Measures (ASC NEPM) (NEPC, 2013) incorporates the Health Screening Levels (HSLs) for petroleum hydrocarbons in soil, soil vapour and groundwater based on levels derived by the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) (CRC CARE, 2011). The HSLs include criteria for BTEX, naphthalene and unspeciated total recoverable hydrocarbons (TRH).

The HSLs for vapour intrusion have been developed to provide assessment of chronic human health risks and do not consider issues such as aesthetics, explosion risks or environmental considerations. Different HSLs are provided for a variety of exposure settings including: low – high density residential; recreational/open space; and commercial / industrial land uses. Different HSLs have also been derived for different soil types i.e. sand/silt/clay and different depths of impact.

Based on the proposed end land use, it is considered that the HSL-D (commercial/industrial land use) is the appropriate health screening levels for the soil analytical results.

Soil Type

The HSLs for vapour intrusion are dependent on soil type and depth. The current environmental and concurrent geotechnical investigation indicated that the dominant soil type (>50% of the soil profile) is clay, however, topsoil consisting of clays and silts was observed in topsoil (0.1-0.4 mbgl) and angular gravel was observed in fill materials (0.1 - 4.4 mbgl) as a minor inclusion. Therefore it is considered that the predominant soil type for the selection of HSLs is clay.

Depth Consideration

The standing groundwater depth varies from approximately 2.5 to 4.2 mbgl, however, groundwater is understood to be located at a depth of 4.4 to 6.3 mbgl based on observations recorded during borehole drilling. The different in groundwater depth at the time of sampling indicates groundwater is present as a semi confined system. As such the Groundwater HSLs for vapour intrusion are considered appropriate guidelines when assessing groundwater analytical results. The groundwater HSLs for vapour intrusion 2-4 m depth are considered appropriately conservative.

Additional Considerations

The HSLs are considered appropriate for the site given:

- Petroleum hydrocarbons are identified as COPC;
- Groundwater is not used for irrigation on the site and is at depths greater than 2 m below ground surface;
- The investigation area is not conservation land;
- There is no evidence to suggest the identified COPC are a result of a solvent spill rather than petroleum spill/leak; and
- There is no evidence to suggest the identified contamination is an atypical petroleum mixture;

3.2.1.2 Health Investigation levels (HILs)

The ASC NEPM (NEPC, 2013) provides risk-based Health Investigation Levels (HIL) for selected organic and inorganic chemicals in soils. The HILs are applicable for assessing human health risk via all relevant pathways of exposure.



Different levels are provided for a variety of exposure settings including residential, open-space / parks / recreational and commercial / industrial land uses. Based on the proposed land use it is considered the NEPM HIL Level D (for commercial/industrial land use) are the appropriate health-based investigation levels for the soil analytical results based on the proposed end use.

3.2.1.3 Ecological Screening Levels (ESLs)

The revised NEPM (NEPC, 2013) also requires that ecological assessment be considered on all sites, even those with no significant ecological environments. The revised NEPM incorporates the Ecological Screening Levels (ESLs) for petroleum hydrocarbons in soil,

The ESLs are provided for several land use scenarios and are relevant for the root zone in soil which corresponds to the top 2 m of the finished level of a site.

Three land use scenarios considered for the ESLs are: areas of ecological significance; urban, residential and public open space; and commercial/ industrial. The ESLs are relevant for the root zone in soil which corresponds to the top 2 m of the finished level of a site. Different ESLs have been derived for different exposure settings. Given the current zoning of the site and the surrounding land use, the Commercial / Industrial category is considered appropriate for the site.

ESLs are provided for both coarse and fine grained soils. Given the reported soil profile as comprising predominantly clays, the fine grained guidelines are considered appropriate for the assessment

3.2.1.4 Environmental Investigation Levels (EILs)

Ecological investigation levels (EILs) have been developed for selected metals and organic substances and are applicable for assessing risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2 m of soil. EILs have been developed for three generic land use settings which include areas of ecological significance; urban residential areas and public open space; and commercial and industrial land uses.

EILs are available for “fresh” (less than 2 years) and “aged” (greater than 2 years) contamination in soil. EILs for “aged” contamination for commercial/industrial land use have been adopted.

Under the ASC NEPM (NEPC, 2013) site specific EILs are calculated for zinc, copper, chromium III and nickel. Generic EILs are available for lead, arsenic, DDT and naphthalene. The site specific EILs are calculated based on the following formula:

$$\text{EIL} = \text{ACL} + \text{ABC}$$

ACL = Added contaminant limit. The ACL is calculated based on soil specific properties such as pH, cation exchange capacity (CEC) and clay content.

ABC = Ambient background concentration. The ABC is the naturally occurring level of the contaminant. This can be measured by using the concentration of a soil sample collected at a reference site not impacted by the contaminant. Where a reference site cannot be determined the ABC can be estimated based on urban metal levels as specified in the ASC NEPM. A reference site could not be identified for this investigation therefore the ABC was estimated.

In order to calculate EILs, the “Ecological Investigation level – Interactive (excel) calculation spreadsheet December 2010” developed by the CSIRO for the NEPC was used using the most conservative values available to estimate site-specific soil physicochemical parameters. The spread sheet is located at the ASC NEPM toolbox website - <http://www.scew.gov.au/node/941>.



Table 11: Soil Properties used in ACL calculation

Soil Property	Units	Value used in ACL calculation
pH	pH Units	7
Clay in soils <2um	% (w/w)	10
Cation Exchange Capacity	cmolc/kg dwt	10
Total Organic Carbon	%	1

The ABC was estimated based on a site location in NSW and a low traffic area.

3.2.1.5 Management limits

The amended NEPM includes 'Management Limits' that are designed to avoid or minimise the potential effects of petroleum hydrocarbons such as:

- Formation of observable Light Non-Aqueous Phase Liquids (LNAPL),
- Fire and explosive hazards; and
- Effects on buried infrastructure e.g. penetration of, or damage to, in-ground services by hydrocarbons.

The Management Limits have not been considered in this current investigation due to the conservative nature of these guidelines. They are generally applied after the consideration of the relevant HSLs and ESLs.

3.2.2 Groundwater Investigation Levels

Groundwater investigation levels (GILs) are based on the ANZECC/ARMCANZ (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, the *Australian Drinking Water Guidelines* (2011) (ADWG) and *Guidelines for Managing Risk in Recreational Waters*, (2008) (GMRRW). The GILs are adopted in amended ASC NEPM (NEPC, 2013) as investigation levels for risk-based assessment of groundwater contamination. GILs are applicable for assessing human health risk and ecological risk from direct contact (including consumption) with groundwater. The adopted investigation levels for the groundwater investigation are discussed in the following subsections.

The quality of groundwater in the vicinity of the site indicates that groundwater may be suitable for human consumption, stock watering, irrigation and industrial purposes. Given the availability of reticulated water in the area, it is considered that the extraction of groundwater for domestic supply is unlikely.

3.2.2.1 Environmental Guidelines

Investigation levels have been adopted from the ANZECC/ARMCANZ (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* to evaluate the groundwater analytical results. These guidelines provide environmental based trigger values for concentrations of organic and inorganic chemicals in freshwater and marine aquatic environments.

As the potential down-gradient groundwater receptor (Bow Bowing River) is a freshwater body, the trigger levels for freshwater water aquatic ecosystems have been adopted. It is considered that ecosystems with high conservation value are not present in the investigation area and therefore the 95% level of protection has been adopted. This protection level applies to ecosystems that could be classified as slightly to moderately disturbed.



3.2.2.2 Health Screening Levels (HSLs)

As discussed in Section 3.2.1, the amended ASC NEPM (NEPC, 1999) also incorporates HSLs for vapour intrusion for petroleum hydrocarbons in groundwater. The groundwater HSLs for vapour intrusion include criteria for BTEX, naphthalene and unspeciated TRH.

The groundwater HSLs for vapour intrusion have been developed to provide assessment of chronic human health risks and do not consider issues such as aesthetics, explosion risks or environmental considerations. The groundwater HSLs, for vapour intrusion, are also considered to be protective of direct contact and the direct contact pathway has not been assessed separately. HSLs are provided for a variety of exposure settings, soil types and depths.

The groundwater HSL-D (commercial/industrial) are considered the most appropriate for groundwater analytical results.

Soil Type

The bore log records provided in Appendix I indicate that the dominant soil type (>50% of the soil profile) at investigation locations is clay. Therefore, it is considered that the predominant soil type for the selection of HSLs is clay.

Depth Consideration

Groundwater beneath the site was intercepted at a depth of between 4.4 to 6.3 mbgl and the standing groundwater depth varies from approximately 2.5 to 4.2 mbgl. Therefore a depth of 2-4 m is considered appropriately conservative for the assessment of groundwater.

Additional Considerations

The HSLs are considered appropriate for the investigation area given the additional considerations outlined previously in Section 3.2.1.1.

3.3 Summary of Investigation Results

3.3.1 Site Specific Geology

The subsurface ground conditions encountered during the investigation works are summarised below.

Table 12: Investigation Specific Geology

Depths (mbgl)	Lithology
0 – 0.1	ASPHALT, dark grey, angular, poorly bound
0.1 – 0.4	Variable FILL comprising gravelly sandy CLAY, silty clay, sandy silt, silty gravelly sand, pale brown, low plasticity, fine to medium grained, with trace rootlets, with some fine to coarse-grained gravel and sandstone pebbles
0.4 – 0.8	FILL comprising of residual CLAY, dark brown to red brown, high plasticity, with some dark grey to medium sub-angular gravels, with some rootlets
0.8 – 1.5	FILL comprising of residual CLAY, grey to dark grey, high plasticity, red/brown fine-grained sub-angular gravels
1.5 - 3.0	Residual silty CLAY, dark grey, high plasticity, brown with some grey, with some fine to medium grained gravel
3.0 – 8.0	Residual CLAY, brown and dark grey, high plasticity, with some fine grained sub-angular to rounded gravel

Ground conditions typically comprised of a gravelly sandy clay topsoil underlain by a silty gravelly sand fill layer of variable thickness (1.6 to 4.4 m bgl); overlying high plasticity silty clays to the maximum depth of investigation (8 mbgl).



Moist conditions were encountered at depths greater than 3 to 4 mbgl indicating the potential presence of groundwater bearing zones at these depths. No perched groundwater was observed during the investigation. Groundwater monitoring wells were therefore screened to target the semi confined groundwater encountered at greater than 4 to 5 m depth. Bore logs illustrating the geology encountered during drilling and well construction details are presented in Appendix J.

Field head space concentrations of VOCs measured using a field portable PID for the collected soil samples varied from below detection limit (0 parts per million (ppm) to 10 ppm (GA-BH02). The field head space PID screening results for VOCs are presented in the borehole logs (Appendix J).

3.3.2 Site Specific Hydrogeology

The investigation area hydrogeological details are summarised below.

Table 13: Investigation Area Specific Hydrogeology

Item	Details
Depth to Groundwater	Standing water levels ranged from 3.22 metres below top of casing (mbtoc) at GA-BH05 to 4.73 mbtoc at GA-BH02. Groundwater gauging data is presented in Table 4 (Appendix B).
Groundwater Flow Direction	The inferred flow direction in deep groundwater is to be interpreted in a north north-easterly direction (Figure 3 of Appendix A).
Groundwater odour and presence of PSH	No hydrocarbon odours or sheens were noted in the newly installed groundwater monitoring wells GA-BH02 and GA-BH08. There was a slight hydrocarbon odour at GA-BH05 and a slight sheen and foaming at GA-BH04. The well head space PID reading within each monitoring well was 0 ppm. The presence of phase separated hydrocarbons (PSH) was not detected within any of the groundwater monitoring wells.
Groundwater Electrical Conductivity (EC)	EC ranged from 6,400 (GA-BH05) to 21,337 (GA-BH04) microSiemens per centimetre ($\mu\text{S}/\text{cm}$), indicating the off-site groundwater is slightly brackish to brackish.
Groundwater pH	pH ranged from 6.6 (GA-BH02) to 6.94 (GA-BH05), indicating groundwater was near neutral.
Groundwater Redox Potential (Eh)	Eh ranged from 80 (GA-BH05) to 298 (GA-BH04) indicating slightly reducing to slightly oxidising groundwater conditions.
Groundwater Dissolved Oxygen (DO)	DO ranged between 0.22 ppm (GA-BH04) and 0.48 ppm (GA-BH02) indicating low oxygenated groundwater conditions. DO at GA-BH05 was slightly elevated at 1.8 ppm and may not be representative of the aquifer condition.

Table Notes:

Summary table provides details of groundwater parameters measured during groundwater monitoring event completed on 26 February 2016

3.3.3 Soil Analytical Results

Soil analytical results were tabulated and compared against adopted investigation criteria. Copies of the laboratory certificates of analysis are provided in Appendix K. A summary table of soil analytical results can be found in Appendix B (Table 1).

All samples reported concentrations below the respective laboratory limit of reporting (LOR) and / or the adopted investigation criteria.

3.3.4 Groundwater Analytical Results

Groundwater analytical results were tabulated and compared against adopted criteria. Copies of the laboratory certificates of analysis are provided in Appendix K. A summary table of groundwater analytical results can be found in Appendix B (Table 2).



- The groundwater samples collected during the investigation reported concentrations below the LOR and / or the adopted assessment criteria except for
 - cadmium within monitoring well GA-BH04, which reported a minor exceedance of the fresh water GIL criteria. Note that a cadmium exceedance was not reported at GA-BH02 which is downgradient to GA-BH04
 - zinc within GA-BH02, GA-BH04, GA-BH05, GA-BH08, which reported exceedances of the fresh water GIL criteria. Note that zinc exceedances occurred both up- and down-gradient of the site.
- Note that the laboratory LOR was greater than assessment criteria for selected compounds.

Cadmium was not reported as a groundwater exceedance at the downgradient site boundary or in other wells, therefore we consider the risk to fresh water receptors to be low. Additionally, cadmium is considered unlikely to present a risk to site occupants and groundwater based on the single occurrence on site and marginal chemical concentrations.

Zinc exceedances were reported in groundwater entering site from both the south and eastern boundary. Therefore, elevated zinc groundwater concentrations are likely indicative of natural background conditions.

3.4 Quality Assurance and Quality Control

3.4.1.1 Quality Assurance Plan

Data Quality Objectives (DQOs) adopted for this investigation were broadly in accordance with those recommended by the United States Environment Protection Agency (USEPA) 2000 documents: *Guidance for the Data Quality Objective Process and Data Quality Objectives Process for Hazardous Waste Site Investigations* which are also in accordance with the requirements of the NSW EPA.

Specific mechanisms for checking the accuracy and precision of analytical data in order to ensure that DQOs are met involve the analysis of laboratory and field quality control (QC) samples.

QC samples collected during the soil investigation included:

- One intra-laboratory duplicate sample: Dup04 (Duplicate of GA-BH01_01 0.1)
- One inter-laboratory duplicate sample: Trip04 (Duplicate of GA-BH01_01 0.1).
- Two rinsate blanks (Rinsate_150216 and Rinsate_160216)
- One triple blank (TRIP BLANK)
- One triple spike (TRIP SPIKE)

QC samples collected during the groundwater monitoring events included:

- One intra-laboratory duplicate sample: QC100 (Duplicate of GA-BH02); and
- One inter-laboratory duplicate sample: QC200 (Triplicate of GA-BH02)
- One rinsate blank (RINSATE)
- One triple blank (TRIP BLANK)

In addition to field QC samples, the laboratory prepared and analysed the following QC samples with each laboratory batch:

- Laboratory duplicates;
- Laboratory blanks;
- Surrogate spikes;



- Matrix spikes; and
- Laboratory control samples.

3.4.1.2 Data Validation

The validity of analytical data was assessed by critical review of the QC sample results. This was performed in accordance with USEPA guidelines as presented in the document *National Functional Guidelines for Superfund Organic Methods Data Review, June 2008* (USEPA, 2008).

Accuracy and precision measurements from the appropriate QC check samples were compared with the analytical DQOs to assess the quality of the analytical data. The primary objective of the data validation process was to ensure that the data reported is suitable to be used to achieve the investigation objectives.

On the basis of the outcome of the validation procedure employed, the overall quality of the analytical data is considered to be of an acceptable standard for interpretive use.

The data validation summary reports and analytical results for QA/QC samples for each batch are included in Appendix K.

3.5 Preliminary Conceptual Site Model

A preliminary conceptual site model (CSM) aims to provide an understanding of the potential for exposure to site COPCs and associated impacts on the proposed construction activities and future use of the site.

Identified potential contamination sources comprise those listed above and shown in Appendix 1, Figure 2. The main contaminant sources of concern, in summary, include: the three ASTs; the bowlers and refuelling station; the storage of paints, thinners and solvents; the car build shed; the car wash bays; historical riverbed (filled in in the 1970s); the bakehouses (spray paint booths); mounds of imported fill and stockpiles.

The contaminant sources and migration or exposure pathways identified have the potential to form pollutant linkages which may pose a risk to a receptor. These can be summarised in the following conceptual site model:

Migration and exposure pathways considered include:

- Direct contact with impacted fill/soil.
- Incidental ingestion of impacted soil.
- Inhalation of soil derived dust.
- Inhalation of volatile contaminants.
- Migration of volatile contaminants from sub surface (vapour intrusion)
- Migration of contaminants to surface water / groundwater

Potential receptors, based on the proposed construction activities and proposed future land use were identified as:

- Demolition or construction workers on the site.
- Future site users.
- Maintenance workers following redevelopment.
- On-site flora and fauna.
- Surface water (Bow Bowing River).



■ Groundwater (particularly shallower groundwater)

The contaminant sources and migration or exposure pathways identified have the potential to form pollutant linkages which may pose a risk to a receptor. These can be summarised as a conceptual site model as presented in Table 14.

Table 14: Conceptual Site Model

Sources/Items	Pathways	Receptors
Historical agricultural activities.	Direct contact with impacted soil.	Site construction workers. Future site users. Maintenance workers following redevelopment. Future maintenance workers. On-site flora and fauna.
Vehicle storage and miscellaneous vehicle activities.	Incidental ingestion of impacted soil.	Site construction workers. Future site users. Maintenance workers following redevelopment. Future maintenance workers. On-site fauna.
Fill of unknown quality.	Inhalation of soil derived dust.	Site construction workers. Future site users. Maintenance workers following redevelopment. Future maintenance workers. On-site fauna.
Leaks or spills associated with fuel storage tanks or paint and related chemicals stored on site.	Inhalation of volatile contaminants.	Site construction workers. Future site users. Maintenance workers following redevelopment. Future maintenance workers. On-site fauna.
	Migration of contaminants to surface water / groundwater	Site groundwater. Bow Bowing River.

The results of the limited Phase II indicated the contamination concentrations in the samples analysed were below the adopted guidelines and therefore, are not considered a risk to receptors.

4.0 CONCLUSIONS

Phase 1 ESA

The purpose of the Phase 1 ESA is to provide an interpretation of the site history assessment and observations made during the site walkover as they relate to potential environmental contamination. Information reviewed indicates the site appeared to be undeveloped from at least the 1940s until the 1970s and had previously been owned by a dairyman, private occupier and then the State Planning Authority.

The majority of the Site is sealed with hardstand and generally appears in good condition with minor cracking and potholing. At the time of the site inspection, the ASTs were appropriately bunded, paint and associated chemicals were appropriately stored and both fuel and chemicals appeared suitable to contain potential spills. A small excavation of potentially-impacted odorous soils was present in the vicinity of the ASTs. Site facilities were observed to be clean, and no evidence of spills, leaks or other obvious contamination was observed.



Observations from the aerial photographs show that there was filling in the Site in the early 1970s from unknown sources. The use of the Site as a vehicle storage and logistics facility, particularly the storage of fuels and the historic filling of the site presents a medium to high potential for soil and groundwater contamination to be present on the site.

Limited Phase II ESA

An assessment of the soil and groundwater quality at nominated locations positioned along the axis of inferred groundwater flow, indicates that the concentrations of reported analytes in both soil and groundwater were generally less than guidelines for the protection of human health, and ecological receptors within the nearby fresh water receiving environment. An exception was the elevated concentrations of cadmium and zinc.

Cadmium was not reported as an exceedance at the downgradient site boundary, hence the risk to fresh water receptors is considered to be low. The zinc exceedances were reported in groundwater entering site from both the south and eastern boundary, therefore are likely indicative of natural background conditions.

It is noted that the Phase II contamination investigation was limited. Due to the current site operations, Golder was unable to access the central portions of the Site for intrusive investigations in closer proximity to the higher risk activities on the site. As such there is potential for undetected soil and groundwater contamination to be present on the site, particularly in close proximity to the fuel storage ASTs.

Site Suitability

Based on the results of the investigation, conditions on site are unlikely to prevent the proposed commercial/industrial redevelopment. However, due to the limitations of this investigation, there is potential for undetected contaminated soil and or groundwater to be present in the central portion of the site, particularly in proximity to the fuel storage ASTs. Further investigations are warranted during the future redevelopment, and remediation and / or management may be required in selected areas of the site.

5.0 RECOMMENDATIONS

Golder recommend that additional intrusive investigations be completed in the central portions of the site, where access for intrusive investigations were restricted during this investigation, and where there is high potential for unidentified soil and / or groundwater contamination to be present. The objective of these investigation be to determine what, if any remediation or management action are required during the proposed redevelopment of the site.



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Report Signature Page

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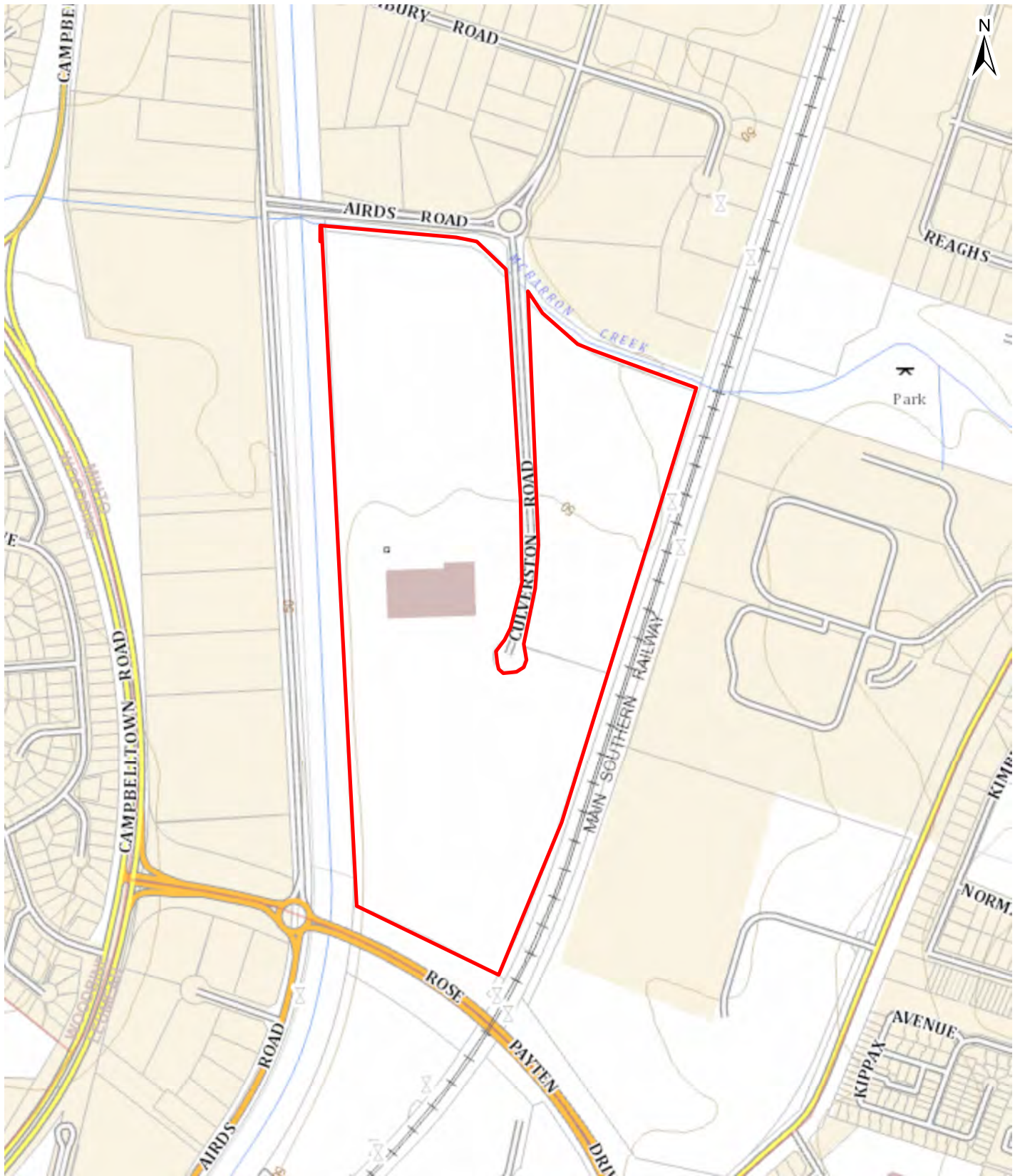
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APPENDIX A

Figures



MINTO INTERMODAL TERMINAL

TACTICAL

SITE LOCALITY

LEGEND

— Site Boundary

COPYRIGHT

Base map provided by SixMaps 2016.

0 20 40 80 120 160 200 metres

SCALE (at A4) 1:8,500

DATUM GDA 94, PROJECTION MGA Zone 55

PROJECT: 1648232

DATE: 24/03/2016

DRAWN: NS

CHECKED: BMS

FIGURE 1



MINTO INTERMODAL TERMINAL

TACTICAL

AREAS OF INTEREST - SITE WIDE

LEGEND

-  Point of Interest
-  Historical River
-  Fill
-  Site Boundary

NOTES

This figure represents the areas on the site that are of potential contamination concern

COPYRIGHT

Base map provided by LPI.
Figure provided by Tactical.

0 15 30 60 90 120 150 metres

SCALE (at A4) 1:7,000

DATUM GDA 94, PROJECTION MGA Zone 55

PROJECT: 1648232
DATE: 07/03/2016
DRAWN: NS
CHECKED: BMS

FIGURE 2



MINTO INTERMODAL TERMINAL

TACTICAL

SAMPLING LOCATIONS

LEGEND

- Boreholes with standpipe installed
- Hand augered borehole
- Large diameter borehole

Site Boundary

NOTES

??

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Base map provided by LPI.
Figure provided by Tactical.

0 15 30 60 90 120 150 metres

SCALE (at A4) 1:6,000

DATUM GDA 94, PROJECTION MGA Zone 55

PROJECT: 1648232
DATE: 07/03/2016
DRAWN: NS
CHECKED: BMS

FIGURE 3



MINTO INTERMODAL TERMINAL

TACTICAL

Groundwater Levels and Inferred Groundwater Flow Direction

LEGEND

-  Monitoring Location
-  Inferred Groundwater Level Contours
-  Inferred Groundwater Direction
-  Site Boundary

NOTES

Groundwater level calculated from field and survey data.

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Base map provided by LPI.
Figure provided by Tactical.

0 15 30 60 90 120 150 metres
SCALE (at A4) 1:6,000
DATUM GDA 94, PROJECTION MGA Zone 55

PROJECT: 1648232
DATE: 14/03/2016
DRAWN: NS
CHECKED: GVS

FIGURE 4





APPENDIX B

Tables

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Borehole location				GA-BH-01				GA-BH02			GA-BH03		GA-BH04		GA-BH05		
				Sample ID	GA-BH01_01 0.1	Dup 04	TRIP 04	GA-BH01_07 3	GA-BH02_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.95	GA-BH03_0.1	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.95	GA-BH05_01 0.1	GA-BH05_05 3.5-3.95	GA-BH06_01 0.1			
				Sample Depth Range	0.1-0.2	0.1-0.2	0.1-0.2	3-3.1	0.1-0.2	1-1.1	3.5-3.95	0.1-0.2	1	0.1-0.2	3.5-3.95	0.1-0.2	3.5-3.95	0.1-0.2			
				Sample Date	16/02/2016	16/02/2016	16/02/2016	16/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	15/02/2016	15/02/2016	15/02/2016	15/02/2016			
				SDG	SE149361-1	SE149361-1	ALSE-Sydney 24	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1			
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion	NEPM 2013 EILS- Commercial and Industrial	NEPM 2013 ESLs- Commercial and Industrial, Fine Soil	NEPM 2013 HIL- Commercial/Industrial D Soil														
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m														
Unknown	PCB 101	mg/kg	0.1																		
	PCB 138	mg/kg	0.1																		
	PCB 153	mg/kg	0.1																		
	PCB 28	mg/kg	0.1																		
	PCB 52	mg/kg	0.1																		
Amino Aliphatics	n-Nitrosodiethylamine	mg/kg	1																		
	N-Nitrosodi-n-butylamine	mg/kg	0.5																		
	N-Nitrosodi-n-propylamine	mg/kg	0.5																		
	n-Nitrosomethylethylamine	mg/kg	0.5																		
Amino Aromatics	1-Naphthylamine	mg/kg	1																		
	2-Naphthylamine	mg/kg	1																		
	Diphenylamine	mg/kg	0.5																		
	n-Nitrosodiphenylamine & Diphenylamine	mg/kg	0.5																		
Anilines	2-Nitroaniline	mg/kg	1																		
	3-Nitroaniline	mg/kg	1																		
	4-Chloroaniline	mg/kg	1																		
	4-Nitroaniline	mg/kg	1																		
	2-methyl-5-nitroaniline	mg/kg	1																		
	Aniline	mg/kg	3																		
	2-methylaniline	mg/kg	1																		
	Asbestos	Asbestos in soil (>7mm ACM)	%w/w	0.01																	
Asbestos in soil (<2mm AF/FA)	%w/w	0.001																			
Asbestos in soil (<7mm AF/FA)	%w/w	0.001																			
Asbestos in soil (>2mm to <7mm AF/FA)	%w/w	0.001																			
E-Nitrobenzenes	Nitrobenzene	mg/kg	0.5																		
	Pentachloronitrobenzene	mg/kg	0.5																		
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.5																		
	1,3-Dinitrobenzene	mg/kg	1																		
	2,4-Dinitrotoluene	mg/kg	0.5																		
	2,6-Dinitrotoluene	mg/kg	0.5																		
Halogenated Benzenes	1,2,3,4-Tetrachlorobenzene	mg/kg	0.5																		
	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	mg/kg	1																		
	1,2,3-Trichlorobenzene	mg/kg	0.1																		
	1,2,4-Trichlorobenzene	mg/kg	0.1																		
	1,2-Dichlorobenzene	mg/kg	0.1																		
	1,3-Dichlorobenzene	mg/kg	0.1																		
	1,4-Dichlorobenzene	mg/kg	0.1																		
	2-Chlorotoluene	mg/kg	0.1																		
	4-Chlorotoluene	mg/kg	0.1																		
	Bromobenzene	mg/kg	0.1																		
	Chlorobenzene	mg/kg	0.1																		
	Hexachlorobenzene	mg/kg	0.1					80													
	Pentachlorobenzene	mg/kg	0.5																		
	Heavy Metals	Arsenic	mg/kg	3					170												
		Cadmium	mg/kg	0.3					3000												
		Chromium	mg/kg	0.3					900												
Copper		mg/kg	0.5					670													
Lead		mg/kg	1					300													
Mercury		mg/kg	0.01					2400000													
Nickel		mg/kg	0.5					1500													
Zinc		mg/kg	0.5					730													
Herbicides	Pronamide	mg/kg	0.5					6000													
	Trifluralin	mg/kg	0.5					4000000													
MAH	1,2,4-trimethylbenzene	mg/kg	0.1																		
	1,3,5-Trimethylbenzene	mg/kg	0.1																		
	Benzene	mg/kg	0.1	4	6	9	20		95												
	Toluene	mg/kg	0.1					135													
	Isopropylbenzene	mg/kg	0.1																		
	n-Butylbenzene	mg/kg	0.1																		
	n-Propylbenzene	mg/kg	0.1																		
	p-Isopropyltoluene	mg/kg	0.1																		
	sec-Butylbenzene	mg/kg	0.1																		
	Styrene	mg/kg	0.1																		
	tert-Butylbenzene	mg/kg	0.1																		
	Ethylbenzene	mg/kg	0.1						185												
	Xylenes (m & p)	mg/kg	0.2																		
	Xylene (o)	mg/kg	0.1																		
	Xylenes (Sum of total) (Lab Reported)	mg/kg	0.3	230					95												
	Total BTEX	mg/kg	0.6																		
Organochlorine Pesticides	2,4-DDT	mg/kg	0.1																		
	a-BHC	mg/kg	0.1																		
	Aldrin	mg/kg	0.1																		
	Aldrin & Dieldrin (Sum of total) (Lab Reported)	mg/kg	0.05					45													
	b-BHC	mg/kg	0.1																		
	Chlordane (Sum of total)	mg/kg	0.05					530													
	cis-Chlordane	mg/kg	0.1																		
	gamma-Chlordane	mg/kg	0.1																		
	trans-Chlordane	mg/kg	0.05																		
d-BHC	mg/kg	0.1																			

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Sample ID		GA-BH01_01 0.1	Dup 04	TRIP 04	GA-BH01_07 3	GA-BH02_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.95	GA-BH03_0.1	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.95	GA-BH05_01 0.1	GA-BH05_05 3.5-3.95	GA-BH06_01 0.1	
				Sample Depth Range		0.1-0.2	0.1-0.2	0.1-0.2	3-3.1	0.1-0.2	1-1.1	3.5-3.95	0.1-0.2	1	0.1-0.2	3.5-3.95	0.1-0.2	3.5-3.95	0.1-0.2	
				Sample Date		16/02/2016	16/02/2016	16/02/2016	16/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	15/02/2016	15/02/2016	15/02/2016	16/02/2016	
				SDG		SE149361-1	SE149361-1	ALSE-Sydney 24	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion		NEPM 2013 EILS- Commercial and industrial		NEPM 2013 ESLs- Commercial and industrial, Fine Soil		NEPM 2013 HIL- Commercial/Industrial D Soil										
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m													
	DDD	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	DDE	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	DDT	mg/kg	0.1							<0.1	<0.1	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	DDT+DDE+DDD (Sum of total) (Lab Reported)	mg/kg	0.05					640	3600	-	-	<0.05	-	-	-	-	-	-	-	
	Dieldrin	mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
	Endosulfan	mg/kg	0.05						2000	-	-	<0.05	-	-	-	-	-	-	-	
	Endosulfan I	mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
	Endosulfan II	mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
	Endosulfan sulphate	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Endrin	mg/kg	0.2						100	<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
	Endrin aldehyde	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Endrin ketone	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	g-BHC	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Heptachlor	mg/kg	0.1						50	<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Heptachlor epoxide	mg/kg	0.1							<0.1	<0.1	<0.05	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Methoxychlor	mg/kg	0.1						2500	<0.1	<0.1	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	o,p-DDD	mg/kg	0.1							<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	o,p-DDE	mg/kg	0.1							<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	trans-Nonachlor	mg/kg	0.1							<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Organophosphorous Pesticides	Azinphos-methyl	mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos-ethyl		mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Carbophenothion		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
Chlorfenvinphos		mg/kg	0.05							-	-	<0.05	-	-	-	-	-	-	-	
Chlorfenvinphos E		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	-	<0.5	-	<0.5	
Chlorpyrifos		mg/kg	0.2						2000	<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Chlorpyrifos-methyl		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
cis-Chlorfenvinphos		mg/kg	2							<2	<2	-	-	-	<2	-	<2	-	<2	
Coumaphos		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
Diazinon		mg/kg	0.5							<0.5	<0.5	<0.05	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	
Dichlorvos		mg/kg	0.5							<0.5	<0.5	<0.05	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	
Dimethoate		mg/kg	0.5							<0.5	<0.5	<0.05	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	
Disulfoton		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
EPN		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
Ethion		mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Ethoprop		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
Fenamiphos		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
Fenitrothion		mg/kg	0.2							<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Fenthion		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
Malathion		mg/kg	0.2							<0.2	<0.2	<0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Methidathion		mg/kg	0.5							<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	
Parathion-methyl		mg/kg	0.5							<0.5	<0.5	<0.2	-	-	<0.5	<0.5	-	<0.5	<0.5	
Mevinphos		mg/kg	1							<1	<1	-	-	-	<1	<1	-	<1	<1	
Monocrotophos		mg/kg	0.2							-	-	<0.2	-	-	-	-	-	-	-	
o,o,o-Triethylphosphorothioate		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	-	<0.5	-	<0.5	
Parathion		mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	
Phorate		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
Pirimphos-ethyl		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
Prothiofos		mg/kg	0.5							<0.5	<0.5	<0.05	-	-	<0.5	<0.5	-	<0.5	<0.5	
Ronnel		mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
Stirophos	mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5		
Other	Chloronaphthalenes (1- + 2-)	mg/kg	1							<1	<1	-	-	-	<1	-	<1	-	<1	
	Di(2-ethylhexyl) adipate	mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	-	<0.5	<0.5	
	Mass of test sample	g	0.01							<0.01	-	-	-	<0.01	-	<0.01	-	<0.01	<0.01	
	PCB 118	mg/kg	0.1							<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	
	PCB 180	mg/kg	0.1							<0.1	<0.1	-	-	-	<0.1	-	<0.1	-	<0.1	
	Sample weight (dry)	g	1							1077	-	-	-	938	-	-	1195	-	1165	1477
PAH	Acenaphthene	mg/kg	0.1							<0.1	<0.1	<0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Acenaphthylene	mg/kg	0.1							<0.1	<0.1	<0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Anthracene	mg/kg	0.1							<0.1	<0.1	<0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Benz(a)anthracene	mg/kg	0.1							<0.1	<0.1	<0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Benzo(a)pyrene	mg/kg	0.1							<0.1 - 0.1	<0.1	<0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	
	Benzo(a)pyrene TEQ (lower bound)*	mg/kg	0.5							-	-	<0.5	-	-</						

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Sample ID		GA-BH01_01 0.1	Dup 04	TRIP 04	GA-BH01_07 3	GA-BH02_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.95	GA-BH03_0.1	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.95	GA-BH05_01 0.1	GA-BH05_05 3.5-3.95	GA-BH06_01 0.1				
				Sample Depth Range		0.1-0.2	0.1-0.2	0.1-0.2	3-3.1	0.1-0.2	1-1.1	3.5-3.95	0.1-0.2	1	0.1-0.2	3.5-3.95	0.1-0.2	3.5-3.95	0.1-0.2				
				Sample Date		16/02/2016	16/02/2016	16/02/2016	16/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	15/02/2016	15/02/2016	15/02/2016	15/02/2016	16/02/2016				
				SDG		SE149361-1	SE149361-1	ALSE-Sydney 24	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1				
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion		NEPM 2013 EILS- Commercial and industrial		NEPM 2013 ESLs- Commercial and industrial, Fine Soil		NEPM 2013 HIL- Commercial/Industrial D Soil													
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m																
Pesticides-Others	3-Methylcholanthrene	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Carbaryl	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Carbazole	mg/kg	0.5					-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-		
	Carbofuran	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Chlorobenzilate	mg/kg	0.5					-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-		
	Demeton-s-methyl	mg/kg	0.5					<0.5	<0.5	<0.05	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Famphur	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Isodrin	mg/kg	0.1					<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Mirex	mg/kg	0.1				100	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	Pirimiphos-methyl	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Profenofos	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
Sulfotepp	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5			
Thionazin	mg/kg	1					<1	<1	-	-	-	<1	<1	<1	-	<1	-	<1	-	<1			
Phenolics	2,4-Dimethylphenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-Dinitrophenol	mg/kg	2					<2	<2	-	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2		
	2-Methylphenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2-Nitrophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	3- & 4- Methylphenol	mg/kg	1					<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	4-Nitrophenol	mg/kg	1					<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	Cresols (Sum of total)	mg/kg	1.5				25000	<1.5	<1.5	-	<1.5	-	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5		
Phenolics-Halogenated	Phenol	mg/kg	0.5				240000	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,3,4,6-Tetrachlorophenol	mg/kg	0.5					<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	2,4,5-Trichlorophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4,6-Trichlorophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,4-Dichlorophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,6-Dichlorophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	2,3,4,6 & 2,3,5,6-Tetrachlorophenol	mg/kg	1					<1	<1	-	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	2-Chlorophenol	mg/kg	0.5					<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
	4-Chloro-3-methylphenol	mg/kg	2					<2	<2	<0.5	<2	-	<2	<2	<2	<2	<2	<2	<2	<2	<2		
	Pentachlorophenol	mg/kg	0.5				660	<0.5	<0.5	<2	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Phthalates	Bis(2-ethylhexyl) phthalate	mg/kg	5					<5	<5	<5	-	-	<5	<5	<5	-	<5	-	<5	-	<5		
	Butylbenzyl phthalate	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Diethyl phthalate	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Dimethyl phthalate	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Di-n-butyl phthalate	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
	Di-n-octyl phthalate	mg/kg	0.5					<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5		
Polychlorinated Biphenyls	Aroclor 1016	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1232	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1242	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1248	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1254	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1260	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1268	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1221	mg/kg	0.2					<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
	Aroclor 1262	mg/kg	0.2					&lt															

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Sample ID		GA-BH01_01 0.1	Dup 04	TRIP 04	GA-BH01_07 3	GA-BH02_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.95	GA-BH03_0.1	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.95	GA-BH05_01 0.1	GA-BH05_05 3.5-3.95	GA-BH06_01 0.1
				Sample Depth Range		0.1-0.2	0.1-0.2	0.1-0.2	3-3.1	0.1-0.2	1-1.1	3.5-3.95	0.1-0.2	1	0.1-0.2	3.5-3.95	0.1-0.2	3.5-3.95	0.1-0.2
				Sample Date		16/02/2016	16/02/2016	16/02/2016	16/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	17/02/2016	15/02/2016	15/02/2016	15/02/2016	15/02/2016	16/02/2016
				SDG		SE149361-1	SE149361-1	ALSE-Sydney 24	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion		NEPM 2013 EILS- Commercial and industrial		NEPM 2013 ESLs- Commercial and industrial, Fine Soil		NEPM 2013 HIL- Commercial/Industrial D Soil									
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m												
Total Petroleum Hydrocarbons	n-Nitrosopyrrolidine	mg/kg	1							<1	<1	<1	-	-	<1	<1	<1	-	<1
	Phenacetin	mg/kg	1							<1	<1	<0.5	-	-	<1	<1	<1	-	<1
	Safrole	mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5
	TRH C37 - C40 Fraction	mg/kg	100							<100	<100	-	<100	-	<100	<100	<100	<100	<100
	TRH C6 - C9 Fraction	mg/kg	20							<20	<20	<10	<20	-	<20	<20	<20	<20	<20
	TRH C10 - C14 Fraction	mg/kg	20							<20	<20	<50	<20	-	<20	<20	<20	<20	<20
	TRH C15 - C28 Fraction	mg/kg	45							100	70	<100	<45	-	<45	<45	<45	<45	<45
	TRH C29 - C36 Fraction	mg/kg	45							280	220	150	<45	-	<45	<45	<45	<45	<45
	TRH+C10 - C36 (Sum of total) (Lab Reported)	mg/kg	110							390	290	150	<110	-	<110	<110	<110	<110	<110
	TRH+C10 - C40 (Sum of total) (Lab Reported)	mg/kg	210							390	290	370	<210	-	<210	<210	<210	<210	<210
	TRH C6 - C10 Fraction F1	mg/kg	25							<25	<25	<10	<25	-	<25	<25	<25	<25	<25
	TRH C6 - C10 Fraction Less BTEX F1	mg/kg	25					215		<25	<25	<10	<25	-	<25	<25	<25	<25	<25
	TRH >C10 - C16 Fraction F2	mg/kg	25							<25	<25	<50	<25	-	<25	<25	<25	<25	<25
	TRH >C10 - C12 Fraction Less Naphthalene F2	mg/kg	25							<25	<25	<50	<25	-	<25	<25	<25	<25	<25
TRH >C16 - C34 Fraction F3	mg/kg	90					2500		260	190	180	<90	-	<90	<90	<90	<90	<90	
TRH >C34 - C40 Fraction F4	mg/kg	120					6600		200	170	190	<120	-	<120	<120	<120	<120	<120	
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1,2,2-Tetrachloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1,1-Trichloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1,2-Trichloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,2,3-Trichloropropane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,2-Dibromo-3-chloropropane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,2-Dibromoethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1-Dichloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,2-Dichloroethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1-Dichloroethene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	cis-1,2-Dichloroethene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	trans-1,2-dichloroethene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,2-Dichloropropane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,3-Dichloropropane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	2,2-Dichloropropane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	1,1-Dichloropropene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	cis-1,3-Dichloropropene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	trans-1,3-dichloropropene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	2-Nitropropane	mg/kg	10							<10	<10	-	-	-	<10	<10	<10	-	<10
	cis-1,4-Dichloro-2-butene	mg/kg	1							<1	<1	<0.5	-	-	<1	<1	<1	-	<1
	trans-1,4-Dichloro-2-butene	mg/kg	1							<1	<1	<0.5	-	-	<1	<1	<1	-	<1
	Allyl chloride	mg/kg	0.1							<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	<0.1
	Bromochloromethane	mg/kg	0.1							<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	<0.1
	Bromodichloromethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Bromoform	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Bromomethane	mg/kg	1							<1	<1	<5	-	-	<1	<1	<1	-	<1
	Carbon disulfide	mg/kg	0.5							<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5
	Carbon tetrachloride	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Chlorodibromomethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Chloroethane	mg/kg	1							<1	<1	<5	-	-	<1	<1	<1	-	<1
	Chloroform	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Chloromethane	mg/kg	1							<1	<1	<5	-	-	<1	<1	<1	-	<1
	Dibromomethane	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Dichlorodifluoromethane	mg/kg	1							<1	<1	<5	-	-	<1	<1	<1	-	<1
	Dichloromethane	mg/kg	0.5							<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5
	Hexachlorobutadiene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Hexachloroethane	mg/kg	0.5							<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5
	Iodomethane	mg/kg	5							<5	<5	<0.5	-	-	<5	<5	<5	-	<5
	Pentachloroethane	mg/kg	0.5							<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5
	Trichloroethene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Tetrachloroethene	mg/kg	0.1							<0.1	<0.1	<0.5	-	-	<0.1	<0.1	<0.1	-	<0.1
	Trichlorofluoromethane	mg/kg	1							<1	<1	<5	-	-	<1	<1	<1	-	<1
	Vinyl chloride	mg/kg	0.1							<0.1	<0.1	<5	-	-	<0.1	<0.1	<0.1	-	<0.1

Legend:

LOR - Limit of Reporting

- Not analysed

ND - not detected above the LOR

HIL - Health Investigation level (NEPC 2013)

EIL - Ecological Investigation Level (NEPC 2013)

HSL - Health Screening level (NEPC 2013)

ESL - Ecological Screening Level (NEPC 2013)

Created by: MER 16/03/2016

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Borehole location A-BH06				GA-BH07				GA-BH-08				GA-HA01				GA-HA02		GA-HA04		GA-HA03																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				Sample ID GA-BH06_06 2.5-2.95				GA-BH07_01 0.1				GA-BH07_05 2.0-2.45				GA-BH08_01 0.1				GA-BH-08_07 5.0-5.45				GA-HA01-001 0.0-0.1				GA-HA01-001 0.5-0.6				GA-HA02		GA-HA04		GA-HA03-001 0-0.1				GA-HA03-002 0.9-1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				Sample Depth Range 2.5-2.95				0.1-0.2				2-2.45				0.1-0.2				5-5.45				0-0.1				0.5-0.6				1.4-1.5		1.4-1.5		0-0.1				0.9-1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				Sample Date 13/02/2016				16/02/2016				16/02/2016				16/02/2016				16/02/2016				15/02/2016				15/02/2016				16/02/2016		16/02/2016		15/02/2016				15/02/2016																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				SDG SE149361-1				SE149361-1				SE149361-1				SE149361-1				SE149361-1				SE149361-1				SE149361-1				SE149528A-1		SE149528A-1		SE149361-1				SE149361-1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion				NEPM 2013 EILS- Commercial and industrial				NEPM 2013 ESLs- Commercial and industrial, Fine Soil				NEPM 2013 HIL- Commercial/Industrial D Soil																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

[illegible]

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Sample ID		GA-BH06_06 2.5-2.95	GA-BH07_01 0.1	GA-BH07_05 2.0-2.45	GA-BH08_01 0.1	GA-BH-08_07 5.0-5.45	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA02	GA-HA04	GA-HA03-001 0-0.1	GA-HA03-002 0.9-1.0	
				Sample Depth Range		2.5-2.95	0.1-0.2	2-2.45	0.1-0.2	5-5.45	0-0.1	0.5-0.6	1.4-1.5	1.4-1.5	0-0.1	0.9-1	
				Sample Date		13/02/2016	16/02/2016	16/02/2016	16/02/2016	16/02/2016	15/02/2016	15/02/2016	16/02/2016	16/02/2016	15/02/2016	15/02/2016	
				SDG		SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149361-1	SE149528A-1	SE149528A-1	SE149361-1	SE149361-1	
				NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion		NEPM 2013 EILS- Commercial and industrial		NEPM 2013 ESLs- Commercial and industrial, Fine Soil		NEPM 2013 HIL- Commercial/Industrial D Soil							
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m										
Pesticides- Others	3-Methylcholanthrene	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Carbaryl	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Carbazole	mg/kg	0.5							-	-	-	-	-	-	-	-
	Carbofuran	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Chlorobenzilate	mg/kg	0.5							-	-	-	-	-	-	-	-
	Demeton-s-methyl	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Famphur	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Isodrin	mg/kg	0.1							<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-
	Mirex	mg/kg	0.1					100		<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-
	Pirimiphos-methyl	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Profenofos	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Sulfotepp	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Thionazin	mg/kg	1							-	-	-	<0.5	-	<0.5	<0.5	-
Phenolics	2,4-Dimethylphenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2,4-Dinitrophenol	mg/kg	2							<2	<2	<2	-	-	<2	-	-
	2-Methylphenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2-Nitrophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	3- & 4- Methylphenol	mg/kg	1							<1	<1	<1	<1	-	<1	<1	-
	4-Nitrophenol	mg/kg	1							<1	<1	<1	<1	-	<1	<1	-
	Cresols (Sum of total)	mg/kg	1.5					25000		<1.5	<1.5	<1.5	-	-	<1.5	<1.5	-
	Phenol	mg/kg	0.5					240000		<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
Phenolics-Halogenated	2,3,4,6-Tetrachlorophenol	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	2,4,5-Trichlorophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2,4,6-Trichlorophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2,4-Dichlorophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2,6-Dichlorophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	2,3,4,6 & 2,3,5,6-Tetrachlorophenol	mg/kg	1							<1	<1	<1	-	-	<1	-	-
	2-Chlorophenol	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	4-Chloro-3-methylphenol	mg/kg	2							<2	<2	<2	-	-	<2	<2	-
	Pentachlorophenol	mg/kg	0.5					660		<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-
	Phthalates	Bis(2-ethylhexyl) phthalate	mg/kg	5							-	-	-	<5	-	<5	<5
Butylbenzyl phthalate		mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
Diethyl phthalate		mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
Dimethyl phthalate		mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
Di-n-butyl phthalate		mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
Di-n-octyl phthalate		mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
Polychlorinated Biphenyls	Aroclor 1016	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1232	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1242	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1248	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1254	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1260	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1268	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1221	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	Aroclor 1262	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	-	-	<0.2	-
	PCB (Sum of Total-Lab Reported)	mg/kg	1					7		<1	<1	<1	<1	-	-	<1	-
Sample Quality Parameters	Moisture	%	0.5							20	9.6	19	16	21	17	12	17
Solvents	Methyl Ethyl Ketone	mg/kg	10							-	-	-	<10	-	<10	<10	-
	2-Hexanone	mg/kg	5							-	-	-	<5	-	<5	<5	-
	Methyl iso-butyl ketone	mg/kg	1							-	-	-	<1	-	<1	<1	-
	Acetone	mg/kg	10							-	-	-	<10	-	<10	<10	-
	Acrylonitrile	mg/kg	0.1							-	-	-	<0.1	-	<0.1	<0.1	-
	Isophorone	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	Methyl-t-butyl ether	mg/kg	0.1							-	-	-	<0.1	-	<0.1	<0.1	-
	Vinyl acetate	mg/kg	10							-	-	-	<10	-	<10	<10	-
SVOCs	1,4-Naphthoquinone	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	2-(Acetylamino) fluorene	mg/kg	0.5							-	-	-	<0.5	-	<0.5	<0.5	-
	2-Picoline	mg/kg	0.5							-	-	-	-	-	-	-	-
	3,3-Dichlorobenzidine	mg/kg	0.5							-	-	-	-	-	-	-	-
	4-(Dimethylamino) azobenzene	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	4-Aminobiphenyl	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	4-Bromophenyl phenyl ether	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	4-Chlorophenyl phenyl ether	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	4-Nitroquinoline-n-oxide	mg/kg	0.5							-	-	-	-	-	-	-	-
	Acetophenone	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	Azobenzene	mg/kg	1							-	-	-	-	-	-	-	-
	Benzyl alcohol	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	Bis(2-chloroethoxy) methane	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	Bis(2-chloroethyl) ether	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	Bis(2-chloroisopropyl) ether	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	Dibenzofuran	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	Ethylmethanesulfonate	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	Hexachlorocyclopentadiene	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	Hexachloropropene	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	cis-Isosafrole	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	trans-Isosafrole	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	Methapyrillene	mg/kg	0.5							-	-	-	-	-	-	-	-
	Methyl methanesulfonate	mg/kg	1							<1	-	<1	-	<1	<1	<1	-
	n-Nitrosomorpholine	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-
	N-Nitrosopiperidine	mg/kg	0.5							<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-

Table 1 - Soil Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

		Sample ID				GA-BH06_06 2.5-2.95				GA-BH07_01 0.1				GA-BH07_05 2.0-2.45				GA-BH08_01 0.1			
		Sample Depth Range				2.5-2.95				0.1-0.2				2-2.45				0.1-0.2			
		Sample Date				13/02/2016				16/02/2016				16/02/2016				16/02/2016			
		SDG				SE149361-1				SE149361-1				SE149361-1				SE149361-1			
		NEPM 2013 Commercial/Industrial D Soil HSL for Vapour Intrusion				NEPM 2013 EILS- Commercial and industrial				NEPM 2013 ESLs- Commercial and industrial, Fine Soil				NEPM 2013 HIL- Commercial/Industrial D Soil							
Chemical Group	Chemical Name	output unit	EQL	0-1m	1-2m	2-4m	>4m														
Total Petroleum Hydrocarbons	n-Nitrosopyrrolidine	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	-	-
	Phenacetin	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	-	-
	Safrole	mg/kg	0.5							-	-	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	-
	TRH C37 - C40 Fraction	mg/kg	100							<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	TRH C6 - C9 Fraction	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	TRH C10 - C14 Fraction	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	82
	TRH C15 - C28 Fraction	mg/kg	45							<45	<45	<45	<45	<45	<45	<45	<45	<45	<45	<45	<45
	TRH C29 - C36 Fraction	mg/kg	45							<45	<45	<45	<45	<45	<45	<45	<45	<45	<45	<45	<45
	TRH+C10 - C36 (Sum of total) (Lab Reported)	mg/kg	110							<110	<110	<110	<110	<110	<110	<110	<110	<110	<110	<110	<110
	TRH+C10 - C40 (Sum of total) (Lab Reported)	mg/kg	210							<210	<210	<210	<210	<210	<210	<210	<210	<210	<210	<210	<210
	TRH C6 - C10 Fraction F1	mg/kg	25							<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH C6 - C10 Fraction Less BTEX F1	mg/kg	25					215		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
	TRH >C10 - C16 Fraction F2	mg/kg	25							<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	78
	TRH >C10 - C12 Fraction Less Naphthalene F2	mg/kg	25							<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	78
Volatile Organic Compounds	TRH >C16 - C34 Fraction F3	mg/kg	90					2500		<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90
	TRH >C34 - C40 Fraction F4	mg/kg	120					6600		<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120
	1,1,1,2-Tetrachloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1,2,2-Tetrachloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1,1-Trichloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1,2-Trichloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,2,3-Trichloropropane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,2-Dibromo-3-chloropropane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,2-Dibromoethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1-Dichloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,2-Dichloroethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1-Dichloroethene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	cis-1,2-Dichloroethene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	trans-1,2-dichloroethene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,2-Dichloropropane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,3-Dichloropropane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	2,2-Dichloropropane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	1,1-Dichloropropene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	cis-1,3-Dichloropropene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	trans-1,3-dichloropropene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	2-Nitropropane	mg/kg	10							-	-	-	<10	-	<10	-	<10	<10	<10	<10	-
	cis-1,4-Dichloro-2-butene	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	trans-1,4-Dichloro-2-butene	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Allyl chloride	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Bromochloromethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Bromodichloromethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Bromoform	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Bromomethane	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Carbon disulfide	mg/kg	0.5							-	-	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	Carbon tetrachloride	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Chlorodibromomethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Chloroethane	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Chloroform	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Chloromethane	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Dibromomethane	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Dichlorodifluoromethane	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Dichloromethane	mg/kg	0.5							-	-	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	Hexachlorobutadiene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Hexachloroethane	mg/kg	0.5							-	-	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	Iodomethane	mg/kg	5							-	-	-	<5	-	<5	-	<5	<5	<5	<5	-
	Pentachloroethane	mg/kg	0.5							-	-	-	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
	Trichloroethene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Tetrachloroethene	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
	Trichlorofluoromethane	mg/kg	1							-	-	-	<1	-	<1	-	<1	<1	<1	<1	-
	Vinyl chloride	mg/kg	0.1							-	-	-	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-

Legend:

LOR - Limit of Reporting

- Not analysed

ND - not detected above the LOR

HIL - Health Investigation level (NEPC 2013)

EIL - Ecological Investigation Level (NEPC 2013)

HSL - Health Screening level (NEPC 2013)

ESL - Ecological Screening Level (NEPC 2013)

Created by: MER

Table 2 - Groundwater Analytical Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

				Location Code		GA-BH02		GA-BH04		GA-BH05		GA-BH08		
				Field ID		GA-BH02		QC100		QC200		GA-BH04		
				Date Sampled		26/02/2016		26/02/2016		26/02/2016		26/02/2016		
				SDG		SE149528-1		SE149528-1		ALSE-Sydney 01-Mar-16		SE149528-1		
				NEPM 2013 Commercial/Industrial		NEPM 2013 GILs, Fresh								
				al GW HSL D Vapour Intrusion		Water(A)								
Chem_Group	ChemName	output unit	EQL	2-4m	4-8m									
Halogenated Benzenes	Total PAH (18)	µg/L	1				<1	<1	-	<1	1	<1		
	Hexachlorobenzene	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Arsenic (Filtered)	mg/L	0.001			0.0002	<0.001	<0.001	<0.001	<0.001	0.002	<0.001		
	Cadmium (Filtered)	mg/L	0.0001				<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001		
	Chromium (Filtered)	mg/L	0.001				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
	Copper (Filtered)	mg/L	0.001			0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
	Lead (Filtered)	mg/L	0.001			0.0034	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
	Mercury (Filtered)	mg/L	0.0001			0.00006	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001		
MAH	Nickel (Filtered)	mg/L	0.001			0.011	0.004	0.004	0.002	0.01	0.006	0.005		
	Zinc (Filtered)	mg/L	0.005			0.008	0.14	0.15	0.175	0.06	0.23	0.1		
	Benzene	mg/L	0.0005	30	30	0.95	<0.0005	<0.0005	-	<0.0005	<0.0025	<0.0005		
	Toluene	mg/L	0.0005				<0.0005	<0.0005	-	0.0013	0.008	<0.0005		
	Ethylbenzene	mg/L	0.0005				<0.0005	<0.0005	-	0.0053	0.0026	<0.0005		
	Xylenes (m & p)	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.005	<0.001		
	Xylene (o)	mg/L	0.0005			0.35	0.0017	0.0015	-	0.036	0.0083	0.0025		
	Xylenes (Sum of total) (Lab Reported)	mg/L	0.0015				0.0025	0.0024	-	0.036	0.011	0.0027		
Organochlorine Pesticides	Total BTEX	mg/L	0.003				0.003	0.003	-	0.043	0.022	0.004		
	2,4-DDT	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001		
	a-BHC	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Aldrin	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Aldrin & Dieldrin (Sum of total) (Lab Reported)	mg/L	0.0005				<0.0005	<0.0005	-	<0.0005	<0.0001	<0.0001		
	b-BHC	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Chlordane (Sum of total)	mg/L	0.0005			0.00003	-	-	<0.0005	-	-	-		
	cis-Chlordane	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	gamma-Chlordane	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	trans-Chlordane	mg/L	0.0005				-	-	<0.0005	-	-	-		
	d-BHC	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	DDD	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	DDE	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	DDT	mg/L	0.0001			0.000006	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	DDT+DDE+DDD (Sum of total) (Lab Reported)	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Dieldrin	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endosulfan I	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endosulfan II	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endosulfan sulphate	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endrin	mg/L	0.0001			0.00001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endrin aldehyde	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Endrin ketone	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	g-BHC	mg/L	0.0001			0.0002	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Heptachlor	mg/L	0.0001			0.00001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Heptachlor epoxide	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001		
	Methoxychlor	mg/L	0.0001				<0.0001	<0.0001	<0.002	<0.0001	<0.0001	<0.0001		
	o,p-DDD	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001		
o,p-DDE	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001			
trans-Nonachlor	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001			
Organophosphorous Pesticides	Azinphos-methyl	mg/L	0.0002				<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002		
	Bromophos-ethyl	mg/L	0.0002				<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002		
	Carbophenothion	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Chlorfenvinphos	mg/L	0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
	Chlorpyrifos	mg/L	0.0002			0.00001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002		
	Chlorpyrifos-methyl	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Diazinon	mg/L	0.0005			0.00001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
	Dichlorvos	mg/L	0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
	Dimethoate	mg/L	0.0005			0.00015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		
	Ethion	mg/L	0.0002				<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002		
	Fenamiphos	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Fenitrothion	mg/L	0.0002			0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002		
	Fenthion	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Malathion	mg/L	0.0002			0.00005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002		
	Methidathion	mg/L	0.0005				<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005		
	Parathion-methyl	mg/L	0.002				-	-	<0.002	-	-	-		
	Monocrotophos	mg/L	0.002				-	-	<0.002	-	-	-		
	Parathion	mg/L	0.0002			0.000004	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002		
	Primiphos-ethyl	mg/L	0.0005				<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005		
	Prothiofos	mg/L	0.0005				-	-	<0.0005	-	-	-		
	PAH	Acenaphthene	mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	
		Acenaphthylene	mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	
		Anthracene	mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	
		Benzo[a]anthracene	mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	
		Benzo[a]pyrene	mg/L	0.0001				<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	
		Benzo[a]pyrene TEQ (lower bound)*	mg/L	0.0005				-	-	<0.0005	-	-	-	
		Benzo[b]k[fluoranthene]	mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	
Benzo[k]fluoranthene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Chrysene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Dibenz[a,h]anthracene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Fluoranthene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Fluorene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Indeno[1,2,3-c,d]pyrene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Naphthalene		mg/L	0.0001			0.016	<0.0001	<0.0001	<0.001	<0.0001	<0.0025 - 0.0005	<0.0005 - 0.0002		
Phenanthrene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
Pyrene		mg/L	0.0001				<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001		
PAH (Sum of Common 16 PAHs - Lab Reported)		mg/L	0.0005				-	-	<0.0005	-	-	-		
PAH-Others	1-Methylnaphthalene	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	0.0004	<0.0001		
	2-Methylnaphthalene	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	0.0005	<0.0001		
Pesticides-Others	Demeton-s-methyl	mg/L	0.0005				-	-	<0.0005	-	-	-		
	Isodrin	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001		
Polychlorinated Biphenyls	Mirex	mg/L	0.0001				<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001		
	Aroclor 1016	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1232	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1242	mg/L	0.001			0.0003	<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1248	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1254	mg/L	0.001			0.00001	<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1260	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1268	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor 1221	mg/L	0.001				<0.001	<0.001	-	<0.001	<0.001	<0.001		
	Aroclor													

SDG				SE149361-1	SE149361-1	RPD	SE149361-1	Interlab_D	RPD
Field ID				GA-BH01_01 0.1	Dup 04		GA-BH01_01 0.1	TRIP 04	
Sampled Date/Time				16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL						
Unknown	PCB 101	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	PCB 138	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	PCB 153	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	PCB 28	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	PCB 52	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Amino Aliphatics	n-Nitrosodiethylamine	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	N-Nitrosodi-n-butylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosodi-n-propylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Amino Aromatics	1-Naphthylamine	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	2-Naphthylamine	mg/kg	1	<1	<1	0	<1		
	Diphenylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5		
Anilines	2-Nitroaniline	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0
	3-Nitroaniline	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0
	4-Chloroaniline	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	4-Nitroaniline	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	2-methyl-5-nitroaniline	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	Aniline	mg/kg	3 : 0.5 (Interlab)	<3	<3	0	<3	<0.5	0
	2-methylaniline	mg/kg	1	<1	<1	0	<1		
E-Nitrobenzenes	Nitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Explosives	1,3-Dinitrobenzene	mg/kg	1	<1	<1	0	<1		
	2,4-Dinitrotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1	0
	2,6-Dinitrotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1	0
Halogenated Benzenes	1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	mg/kg	1	<1	<1	0	<1		
	1,2,3-Trichlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2,4-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	1,2,4-Trichlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	1,2-Dichlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,3-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	1,3-Dichlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,4-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	1,4-Dichlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	2-Chlorotoluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	4-Chlorotoluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Bromobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Chlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Hexachlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Hexachlorobenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Heavy Metals	Arsenic	mg/kg	3 : 5 (Interlab)	<3	<3	0	<3	<5	0
	Cadmium	mg/kg	0.3 : 1 (Interlab)	0.3	<0.3	0	0.3	<1	0
	Chromium	mg/kg	0.3 : 2 (Interlab)	12	8.4	35	12	23	63
	Copper	mg/kg	0.5 : 5 (Interlab)	64	50	25	64	87	30
	Lead	mg/kg	1 : 5 (Interlab)	7	4	55	7	9	25
	Mercury	mg/kg	0.01 : 0.1 (Interlab)	0.01	0.01	0	0.01	<0.1	0
	Nickel	mg/kg	0.5 : 2 (Interlab)	41	20	69	41	83	68
	Zinc	mg/kg	0.5 : 5 (Interlab)	72	28	88	72	94	27
Herbicides	Trifluralin	mg/kg	0.5	<0.5	<0.5	0	<0.5		
MAH	1,2,4-trimethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,3,5-Trimethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0

SDG				SE149361-1	SE149361-1	RPD	SE149361-1	Interlab_D	RPD
Field ID				GA-BH01_01 0.1	Dup 04		GA-BH01_01 0.1	TRIP 04	
Sampled Date/Time				16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL						
	Isopropylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	n-Butylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	n-Propylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	p-Isopropyltoluene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5	0
	sec-Butylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Styrene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	tert-Butylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Ethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylenes (m & p)	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0
	Xylene (o)	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylenes (Sum of total) (Lab Reported)	mg/kg	0.3 : 0.5 (Interlab)	<0.3	<0.3	0	<0.3	<0.5	0
	Total BTEX	mg/kg	0.6 : 0.2 (Interlab)	<0.6	<0.6	0	<0.6	<0.2	0
Organochlorine Pesticides									
	2,4-DDT	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	a-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	a-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Aldrin	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Aldrin	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	b-BHC	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05	0
	b-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	cis-Chlordane	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	cis-Chlordane	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	gamma-Chlordane	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	gamma-Chlordane	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	d-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	d-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDD	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDD	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDE	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDE	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	DDT	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	DDT	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Dieldrin	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Dieldrin	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endosulfan I	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endosulfan I	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endosulfan II	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endosulfan II	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endosulfan sulphate	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endosulfan sulphate	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endrin	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endrin	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Endrin aldehyde	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endrin ketone	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Endrin ketone	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	g-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	g-BHC	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor epoxide	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Heptachlor epoxide	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	Methoxychlor	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	Methoxychlor	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0
	o,p-DDD	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	o,p-DDE	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	0	<0.1		
Organophosphorous Pesticides									
	Azinphos-methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Azinphos-methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Bromophos-ethyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Bromophos-ethyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Carbophenothion	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05	0
	Chlorfenvinphos E	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Chlorpyriphos	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0

SDG			SE149361-1	SE149361-1	RPD	SE149361-1	Interlab_D	RPD
Field ID			GA-BH01_01 0.1	Dup 04		GA-BH01_01 0.1	TRIP 04	
Sampled Date/Time			16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL					
	Chlorpyrifos	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05 0
	Chlorpyrifos-methyl	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	cis-Chlorfenvinphos	mg/kg	2	<2	<2	0	<2	
	Coumaphos	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Diazinon	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Diazinon	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Dichlorvos	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Dichlorvos	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Dimethoate	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Dimethoate	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Disulfoton	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	EPN	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Ethion	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05 0
	Ethion	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05 0
	Ethoprop	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Fenamiphos	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Fenitrothion	mg/kg	0.2	<0.2	<0.2	0	<0.2	
	Fenitrothion	mg/kg	0.2	<0.2	<0.2	0	<0.2	
	Fenthion	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Malathion	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05 0
	Malathion	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.05 0
	Methidathion	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Methidathion	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Parathion-methyl	mg/kg	0.5 : 0.2 (Interlab)	<0.5	<0.5	0	<0.5	<0.2 0
	Mevinphos	mg/kg	1	<1	<1	0	<1	
	o,o,o-Triethylphosphorothioate	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2 0
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2 0
	Phorate	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Pirimphos-ethyl	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Prothiofos	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05 0
	Ronnel	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	Stirophos	mg/kg	0.5	<0.5	<0.5	0	<0.5	
Other	Chloronaphthalenes (1- + 2-)	mg/kg	1	<1	<1	0	<1	
	Di(2-ethylhexyl) adipate	mg/kg	0.5	<0.5	<0.5	0	<0.5	
	PCB 118	mg/kg	0.1	<0.1	<0.1	0	<0.1	
	PCB 180	mg/kg	0.1	<0.1	<0.1	0	<0.1	
PAH	Acenaphthene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Acenaphthene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Acenaphthylene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Acenaphthylene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benz(a)anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benz(a)anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benzo(a)pyrene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5 0
	Benzo(a)pyrene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benzo(a)pyrene TEQ (upper bound)*	mg/kg	0.3 TEQ (mg/kg): 0.5 (Interlab)	<0.3	<0.3	0	<0.3	1.2 120
	Benzo(b)&(k)fluoranthene	mg/kg	0.2	0.2	<0.2	0	0.2	
	Benzo(b)&(j)fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	0.2	0.1	67	0.2	<0.5 0
	Benzo(b)&(j)fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5 0
	Benzo(g,h,i)perylene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benzo(g,h,i)perylene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5 0
	Benzo(k)fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benzo(k)fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Chrysene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5 0
	Chrysene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Dibenz(a,h)anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Dibenz(a,h)anthracene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5 0
	Benzo(a)pyrene TEQ (Calculated)	TEQ	0.2 TEQ (mg/kg)	<0.2	<0.2	0	<0.2	
	Fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	0.1	0.1	0	0.1	<0.5 0
	Fluoranthene	mg/kg	0.1 : 0.5 (Interlab)	0.1	<0.1	0	0.1	<0.5 0

SDG				SE149361-1	SE149361-1	RPD	SE149361-1	Interlab_D	RPD
Field ID				GA-BH01_01 0.1	Dup 04		GA-BH01_01 0.1	TRIP 04	
Sampled Date/Time				16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL						
	Fluorene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Fluorene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Naphthalene	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Naphthalene	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Naphthalene	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Phenanthrene	mg/kg	0.1 : 0.5 (Interlab)	0.1	0.1	0	0.1	<0.5	0
	Phenanthrene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Pyrene	mg/kg	0.1 : 0.5 (Interlab)	0.2	0.1	67	0.2	<0.5	0
	Pyrene	mg/kg	0.1 : 0.5 (Interlab)	0.2	0.1	67	0.2	<0.5	0
	PAH (Sum of Common 16 PAHs - Lab Re	mg/kg	0.8 : 0.5 (Interlab)	<0.8	<0.8	0	<0.8	<0.5	0
PAH-Others	1-Methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	1-Methylnaphthalene	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	2-Methylnaphthalene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	2-Methylnaphthalene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	3-Methylcholanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Pesticides-Others	Carbaryl	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Carbofuran	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Demeton-s-methyl	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.05	0
	Famphur	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Isodrin	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Isodrin	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Mirex	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Mirex	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Pirimiphos-methyl	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Profenofos	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Sulfotepp	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Thionazin	mg/kg	1	<1	<1	0	<1		
Phenolics	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dinitrophenol	mg/kg	2	<2	<2	0	<2		
	2-Methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-Nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-Nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	3- & 4- Methylphenol	mg/kg	1	<1	<1	0	<1	<1	0
	3- & 4- Methylphenol	mg/kg	1	<1	<1	0	<1	<1	0
	4-Nitrophenol	mg/kg	1	<1	<1	0	<1		
	4-Nitrophenol	mg/kg	1	<1	<1	0	<1		
	Cresols (Sum of total)	mg/kg	1.5	<1.5	<1.5	0	<1.5		
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Phenolics-Halogenated	2,3,4,6-Tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	2,4,5-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,5-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,3,4,6 & 2,3,5,6-Tetrachlorophenol	mg/kg	1	<1	<1	0	<1		
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	2 : 0.5 (Interlab)	<2	<2	0	<2	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	2 : 0.5 (Interlab)	<2	<2	0	<2	<0.5	0
	Pentachlorophenol	mg/kg	0.5 : 2 (Interlab)	<0.5	<0.5	0	<0.5	<2	0
	Pentachlorophenol	mg/kg	0.5 : 2 (Interlab)	<0.5	<0.5	0	<0.5	<2	0

			SDG	SE149361-1	SE149361-1		SE149361-1	Interlab_D	
			Field ID	GA-BH01_01 0.1	Dup 04	RPD	GA-BH01_01 0.1	TRIP 04	RPD
			Sampled Date/Time	16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL						
Phthalates	Bis(2-ethylhexyl) phthalate	mg/kg	5 : 0.5 (Interlab)	<5	<5	0	<5	<5	0
	Butylbenzyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
Polychlorinated Biphenyls	Aroclor 1016	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1232	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1242	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1248	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1254	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1260	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1268	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1221	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Aroclor 1262	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	PCB (Sum of Total-Lab Reported)	mg/kg	1 : 0.1 (Interlab)	<1	<1	0	<1	<0.1	0
Sample Quality Parameters	Moisture	%	0.5 : 1 (Interlab)	10	4.4	78	10	2.4	123
Solvents	Methyl Ethyl Ketone	mg/kg	10 : 5 (Interlab)	<10	<10	0	<10	<5	0
	2-Hexanone	mg/kg	5	<5	<5	0	<5	<5	0
	Methyl iso-butyl ketone	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Acetone	mg/kg	10	<10	<10	0	<10		
	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Isophorone	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Methyl-t-butyl ether	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Vinyl acetate	mg/kg	10 : 5 (Interlab)	<10	<10	0	<10	<5	0
SVOCs	1,4-Naphthoquinone	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	2-(Acetylamino) fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	4-(Dimethylamino) azobenzene	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	4-Aminobiphenyl	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	4-Bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Acetophenone	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzyl alcohol	mg/kg	1	<1	<1	0	<1		
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Dibenzofuran	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Ethylmethanesulfonate	mg/kg	1	<1	<1	0	<1		
	Hexachlorocyclopentadiene	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<2.5	0
	Hexachloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	cis-Isosafrole	mg/kg	1	<1	<1	0	<1		
	trans-Isosafrole	mg/kg	1	<1	<1	0	<1		
	Methyl methanesulfonate	mg/kg	1	<1	<1	0	<1		
	n-Nitrosomorpholine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosopiperidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	n-Nitrosopyrrolidine	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<1	0
	Phenacetin	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	Safrole	mg/kg	0.5	<0.5	<0.5	0	<0.5		
Total Petroleum Hydrocarbons	TRH C37 - C40 Fraction	mg/kg	100	<100	<100	0	<100		
	TRH C6 - C9 Fraction	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
	TRH C10 - C14 Fraction	mg/kg	20 : 50 (Interlab)	<20	<20	0	<20	<50	0
	TRH C15 - C28 Fraction	mg/kg	45 : 100 (Interlab)	100	70	35	100	<100	0
	TRH C29 - C36 Fraction	mg/kg	45 : 100 (Interlab)	280	220	24	280	150	60
	TRH+C10 - C36 (Sum of total) (Lab Repor	mg/kg	110 : 50 (Interlab)	390	290	29	390	150	89
	TRH+C10 - C40 (Sum of total) (Lab Repor	mg/kg	210 : 50 (Interlab)	390	290	29	390	370	5
	TRH C6 - C10 Fraction F1	mg/kg	25 : 10 (Interlab)	<25	<25	0	<25	<10	0
	TRH C6 - C10 Fraction Less BTEX F1	mg/kg	25 : 10 (Interlab)	<25	<25	0	<25	<10	0
	TRH >C10 - C16 Fraction F2	mg/kg	25 : 50 (Interlab)	<25	<25	0	<25	<50	0

			SDG	SE149361-1	SE149361-1		SE149361-1	Interlab_D	
			Field ID	GA-BH01_01 0.1	Dup 04	RPD	GA-BH01_01 0.1	TRIP 04	RPD
			Sampled Date/Time	16/02/2016	16/02/2016		16/02/2016	16/02/2016	
Chemical Group	Chemical Name	Units	EQL						
	TRH >C10 - C12 Fraction Less Naphthale	mg/kg	25 : 50 (Interlab)	<25	<25	0	<25	<50	0
	TRH >C16 - C34 Fraction F3	mg/kg	90 : 100 (Interlab)	260	190	31	260	180	36
	TRH >C34 - C40 Fraction F4	mg/kg	120 : 100 (Interlab)	200	170	16	200	190	5
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1,2,2-Tetrachloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1,1-Trichloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1,2-Trichloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2,3-Trichloropropane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2-Dibromo-3-chloropropane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2-Dibromoethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1-Dichloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2-Dichloroethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1-Dichloroethene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	cis-1,2-Dichloroethene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	trans-1,2-dichloroethene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,2-Dichloropropane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,3-Dichloropropane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	2,2-Dichloropropane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	1,1-Dichloropropene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	cis-1,3-Dichloropropene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	trans-1,3-dichloropropene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	2-Nitropropane	mg/kg	10	<10	<10	0	<10		
	cis-1,4-Dichloro-2-butene	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	trans-1,4-Dichloro-2-butene	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	Allyl chloride	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Bromochloromethane	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Bromodichloromethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Bromoform	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Bromomethane	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Carbon tetrachloride	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Chlorodibromomethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Chloroethane	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Chloroform	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Chloromethane	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Dibromomethane	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Dichlorodifluoromethane	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Dichloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Hexachlorobutadiene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Hexachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Iodomethane	mg/kg	5 : 0.5 (Interlab)	<5	<5	0	<5	<0.5	0
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Trichloroethene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Tetrachloroethene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Trichlorofluoromethane	mg/kg	1 : 5 (Interlab)	<1	<1	0	<1	<5	0
	Vinyl chloride	mg/kg	0.1 : 5 (Interlab)	<0.1	<0.1	0	<0.1	<5	0

*RPDs have only been considered where a concentration is greater than 5 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 20 (5-10 x EQL); 20 (10-30 x EQL); 20 (> 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
NA denotes not available as an RPD can only be calculated when both concentrations are above the limit of reporting
< - less than laboratory limit of reporting
- not analysed by secondary lab

Prepared by:	MER	Date:	16/03/2016
Checked by:		Date:	

			SDG	SE149528-1	SE149528-1		SE149528-1	Interlab_D	
			Field ID	GA-BH02	QC100	RPD	GA-BH02	QC200	RPD
			Sampled Date/Time	26/02/2016	26/02/2016		26/02/2016	26/02/2016	
Chem_Group	ChemName	Units	EQL						
	Total PAH (18)	µg/L	1		<1	<1	0	<1	
Halogenated Benzenes	Hexachlorobenzene	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
Heavy Metals	Arsenic (Filtered)	mg/l	0.001		<0.001	<0.001	0	<0.001	<0.001 0
	Cadmium (Filtered)	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	<0.0001 0
	Chromium (Filtered)	mg/l	0.001		<0.001	<0.001	0	<0.001	<0.001 0
	Copper (Filtered)	mg/l	0.001		<0.001	<0.001	0	<0.001	<0.001 0
	Lead (Filtered)	mg/l	0.001		<0.001	<0.001	0	<0.001	<0.001 0
	Mercury (Filtered)	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	<0.0001 0
	Nickel (Filtered)	mg/l	0.001		0.004	0.004	0	0.004	0.002 67
	Zinc (Filtered)	mg/l	0.005		0.14	0.15	7	0.14	0.175 22
MAH	Benzene	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	
	Benzene	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	
	Toluene	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	
	Ethylbenzene	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	
	Xylenes (m & p)	mg/l	0.001		<0.001	<0.001	0	<0.001	
	Xylene (o)	mg/l	0.0005		0.0017	0.0015	13	0.0017	
	Xylenes (Sum of total) (Lab Reported)	mg/l	0.0015		0.0025	0.0024	4	0.0025	
	Total BTEX	mg/l	0.003		0.003	0.003	0	0.003	
Organochlorine Pesticides	2,4-DDT	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	
	a-BHC	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Aldrin	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	b-BHC	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	cis-Chlordane	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	gamma-Chlordane	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	
	d-BHC	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	DDD	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	DDE	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	DDT	mg/l	0.0001 : 0.002 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.002 0
	Dieldrin	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endosulfan I	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endosulfan II	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endosulfan sulphate	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endrin	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endrin aldehyde	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Endrin ketone	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	g-BHC	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Heptachlor	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Heptachlor epoxide	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0
	Methoxychlor	mg/l	0.0001 : 0.002 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.002 0
	o,p-DDD	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	
	o,p-DDE	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	
	trans-Nonachlor	mg/l	0.0001		<0.0001	<0.0001	0	<0.0001	
Organophosphorous Pesticides	Azinphos-methyl	mg/l	0.0002 : 0.0005 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.0005 0
	Bromophos-ethyl	mg/l	0.0002 : 0.0005 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.0005 0
	Chlorpyriphos	mg/l	0.0002 : 0.0005 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.0005 0
	Diazinon	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	<0.0005 0
	Dichlorvos	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	<0.0005 0
	Dimethoate	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	<0.0005 0
	Ethion	mg/l	0.0002 : 0.0005 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.0005 0
	Fenitrothion	mg/l	0.0002		<0.0002	<0.0002	0	<0.0002	
	Malathion	mg/l	0.0002 : 0.0005 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.0005 0
	Methidathion	mg/l	0.0005		<0.0005	<0.0005	0	<0.0005	
	Parathion	mg/l	0.0002 : 0.002 (Interlab)		<0.0002	<0.0002	0	<0.0002	<0.002 0
PAH	Acenaphthene	mg/l	0.0001 : 0.001 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.001 0
	Acenaphthylene	mg/l	0.0001 : 0.001 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.001 0
	Anthracene	mg/l	0.0001 : 0.001 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.001 0
	Benz(a)anthracene	mg/l	0.0001 : 0.001 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.001 0
	Benzo(a)pyrene	mg/l	0.0001 : 0.0005 (Interlab)		<0.0001	<0.0001	0	<0.0001	<0.0005 0

SDG				SE149528-1	SE149528-1	RPD	SE149528-1	Interlab_D	RPD
Field ID				GA-BH02	QC100		GA-BH02	QC200	
Sampled Date/Time				26/02/2016	26/02/2016		26/02/2016	26/02/2016	
Chem_Group	ChemName	Units	EQL						
	Benzo(b)&(j)fluoranthene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Benzo(g,h,i)perylene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Benzo(k)fluoranthene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Chrysene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Dibenz(a,h)anthracene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Fluoranthene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Fluorene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Indeno(1,2,3-c,d)pyrene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Naphthalene	mg/l	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.001	0
	Naphthalene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Phenanthrene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
	Pyrene	mg/l	0.0001 : 0.001 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.001	0
PAH-Others	1-Methylnaphthalene	mg/l	0.0001	<0.0001	<0.0001	0	<0.0001		
	2-Methylnaphthalene	mg/l	0.0001	<0.0001	<0.0001	0	<0.0001		
Pesticides-Others	Isodrin	mg/l	0.0001	<0.0001	<0.0001	0	<0.0001		
	Mirex	mg/l	0.0001	<0.0001	<0.0001	0	<0.0001		
Polychlorinated Biphenyls	Aroclor 1016	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1232	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1242	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1248	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1254	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1260	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1268	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1221	mg/l	0.001	<0.001	<0.001	0	<0.001		
	Aroclor 1262	mg/l	0.001	<0.001	<0.001	0	<0.001		
	PCB (Sum of Total-Lab Reported)	mg/l	0.005 : 0.001 (Interlab)	<0.005	<0.005	0	<0.005	<0.001	0
Total Petroleum Hydrocarbons	TRH C6 - C9 Fraction	mg/l	0.04	<0.04	<0.04	0	<0.04		
	TRH C6 - C10 Fraction F1	mg/l	0.05	<0.05	<0.05	0	<0.05		
	TRH C6 - C10 Fraction Less BTEX F1	mg/l	0.05	<0.05	<0.05	0	<0.05		

*RPDs have only been considered where a concentration is greater than 5 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 20 (5-10 x EQL); 20 (10-30 x EQL); 20 (> 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
NA denotes not available as an RPD can only be calculated when both concentrations are above the limit of reporting
< - less than laboratory limit of reporting
- not analysed by secondary lab

Prepared by:	MER	Date:	16/03/2016
Checked by:		Date:	

SDG		SE149361-1	SE149361-1	SE149528-1	SE149361-1
Field ID		RINSATE_150216	RINSATE_160216	RINSATE	TRIP BLANK
Sampled_Date/Time		17/02/2016	17/02/2016	26/02/2016	17/02/2016
Sample Type		Rinsate	Rinsate	Rinsate	Trip_B

Chemical Group	Chemical Name	Units	EQL				
	Total PAH (18)	µg/L	1			<1	
Halogenated Benzenes	Hexachlorobenzene	mg/L	0.0001			<0.0001	
Heavy Metals	Arsenic (Filtered)	mg/l	0			<0.001	
	Cadmium (Filtered)	mg/l	0			<0.0001	
	Chromium (Filtered)	mg/l	0			<0.001	
	Copper (Filtered)	mg/l	0			<0.001	
	Lead (Filtered)	mg/l	0	<0.001	<0.001	<0.001	
	Mercury (Filtered)	mg/l	0			<0.0001	
	Nickel (Filtered)	mg/l	0			<0.001	
	Zinc (Filtered)	mg/l	0			<0.005	
MAH	Benzene	mg/l	0	<0.0005	<0.0005	<0.0005	<0.0005
	Toluene	mg/l	0	<0.0005	<0.0005	<0.0005	
	Ethylbenzene	mg/l	0	<0.0005	<0.0005	<0.0005	
	Xylenes (m & p)	mg/L	0	<0.001	<0.001	<0.001	
	Xylene (o)	mg/l	0	<0.0005	<0.0005	<0.0005	
	Xylenes (Sum of total) (Lab Reported)	mg/l	0.0015	<0.0015	<0.0015	<0.0015	
	Total BTEX	mg/l	0.003	<0.003	<0.003	<0.003	
Organochlorine Pesticides	2,4-DDT	mg/l	0.0001			<0.0001	
	a-BHC	mg/L	0.0001			<0.0001	
	Aldrin	mg/L	0			<0.0001	
	Aldrin & Dieldrin (Sum of total) (Lab Reported)	mg/l	0.0005				
	b-BHC	mg/L	0.0001			<0.0001	
	Chlordane (Sum of total)	mg/l	0.0005				
	cis-Chlordane	mg/l	0.0001			<0.0001	
	gamma-Chlordane	mg/l	0.0001			<0.0001	
	trans-Chlordane	mg/L	0.0005				
	d-BHC	mg/l	0			<0.0001	
	DDD	mg/L	0.0001			<0.0001	
	DDE	mg/L	0.0001			<0.0001	
	DDT	mg/L	0			<0.0001	
	DDT+DDE+DDD (Sum of total) (Lab Reported)	mg/l	0.0005				
	Dieldrin	mg/L	0			<0.0001	
	Endosulfan I	mg/l	0.0001			<0.0001	
	Endosulfan II	mg/l	0.0001			<0.0001	
	Endosulfan sulphate	mg/l	0.0001			<0.0001	
	Endrin	mg/l	0			<0.0001	
	Endrin aldehyde	mg/l	0.0001			<0.0001	
	Endrin ketone	mg/L	0.0001			<0.0001	
	g-BHC	mg/L	0.0001			<0.0001	
	Heptachlor	mg/L	0			<0.0001	
	Heptachlor epoxide	mg/l	0.0001			<0.0001	
	Methoxychlor	mg/L	0.0001			<0.0001	
	o,p-DDD	mg/l	0.0001			<0.0001	
	o,p-DDE	mg/l	0.0001			<0.0001	
	trans-Nonachlor	mg/l	0.0001			<0.0001	
Organophosphorous Pesticides	Azinphos-methyl	mg/L	0.0002			<0.0002	
	Bromophos-ethyl	mg/L	0.0002			<0.0002	
	Carbophenothion	mg/l	0.0005				
	Chlorfenvinphos	mg/L	0.0005				
	Chlorpyrifos	mg/l	0			<0.0002	
	Chlorpyrifos-methyl	mg/L	0.0005				
	Diazinon	mg/L	0			<0.0005	
	Dichlorvos	mg/L	0			<0.0005	
	Dimethoate	mg/L	0.0005			<0.0005	
	Ethion	mg/L	0			<0.0002	
	Fenamiphos	mg/L	0.0005				
	Fenitrothion	mg/l	0.0002			<0.0002	
	Fenthion	mg/L	0.0005				

SDG	SE149361-1	SE149361-1	SE149528-1	SE149361-1
Field ID	RINSATE_150216	RINSATE_160216	RINSATE	TRIP BLANK
Sampled_Date/Time	17/02/2016	17/02/2016	26/02/2016	17/02/2016
Sample Type	Rinsate	Rinsate	Rinsate	Trip_B

Chemical Group	Chemical Name	Units	EQL				
	Malathion	mg/L	0.0002			<0.0002	
	Methidathion	mg/l	0.0005			<0.0005	
	Parathion-methyl	mg/l	0.002				
	Monocrotophos	mg/L	0.002				
	Parathion	mg/L	0.0002			<0.0002	
	Pirimphos-ethyl	mg/L	0.0005				
	Prothiofos	mg/L	0.0005				
PAH	Acenaphthene	mg/L	0			<0.0001	
	Acenaphthylene	mg/L	0			<0.0001	
	Anthracene	mg/l	0			<0.0001	
	Benz(a)anthracene	mg/L	0.0001			<0.0001	
	Benzo(a)pyrene	mg/L	0			<0.0001	
	Benzo(a)pyrene TEQ (lower bound)*	mg/l	0.0005				
	Benzo(b)&(k)fluoranthene	mg/l	0.0002				
	Benzo(b)&(j)fluoranthene	mg/l	0.0001			<0.0001	
	Benzo(g,h,i)perylene	mg/L	0.0001			<0.0001	
	Benzo(k)fluoranthene	mg/l	0.0001			<0.0001	
	Chrysene	mg/L	0.0001			<0.0001	
	Dibenz(a,h)anthracene	mg/l	0.0001			<0.0001	
	Fluoranthene	mg/L	0			<0.0001	
	Fluorene	mg/l	0.0001			<0.0001	
	Indeno(1,2,3-c,d)pyrene	mg/L	0.0001			<0.0001	
	Naphthalene	mg/l	0	<0.0005	<0.0005	<0.0005	
	Phenanthrene	mg/L	0			<0.0001	
	Pyrene	mg/L	0			<0.0001	
	PAH (Sum of Common 16 PAHs - Lab Re	mg/l	0.0005				
PAH-Others	1-Methylnaphthalene	mg/l	0.0001			<0.0001	
	2-Methylnaphthalene	mg/l	0.0001			<0.0001	
Pesticides-Others	Demeton-s-methyl	mg/L	0.0005				
	Isodrin	mg/l	0.0001			<0.0001	
	Mirex	mg/l	0.0001			<0.0001	
Polychlorinated Biphenyls	Aroclor 1016	mg/l	0.001			<0.001	
	Aroclor 1232	mg/l	0.001			<0.001	
	Aroclor 1242	mg/l	0.001			<0.001	
	Aroclor 1248	mg/l	0.001			<0.001	
	Aroclor 1254	mg/l	0.001			<0.001	
	Aroclor 1260	mg/L	0			<0.001	
	Aroclor 1268	mg/l	0.001			<0.001	
	Aroclor 1221	mg/l	0.001			<0.001	
	Aroclor 1262	mg/l	0.001			<0.001	
	PCB (Sum of Total-Lab Reported)	mg/l	0.001			<0.005	
Total Petroleum Hydrocarbons	TRH C37 - C40 Fraction	mg/l	0.2	<0.2	<0.2		
	TRH C6 - C9 Fraction	mg/L	0	<0.04	<0.04	<0.04	<0.04
	TRH C10 - C14 Fraction	mg/L	0	<0.05	<0.05		
	TRH C15 - C28 Fraction	mg/L	0	<0.2	<0.2		
	TRH C29 - C36 Fraction	mg/L	0	<0.2	<0.2		
	TRH+C10 - C36 (Sum of total) (Lab Repor	mg/l	0.05	<0.45	<0.45		
	TRH+C10 - C40 (Sum of total) (Lab Repor	mg/l	0.1	<0.65	<0.65		
	TRH C6 - C10 Fraction F1	mg/L	0	<0.05	<0.05	<0.05	<0.05
	TRH C6 - C10 Fraction Less BTEX F1	mg/l	0	<0.05	<0.05	<0.05	<0.05
	TRH >C10 - C16 Fraction F2	mg/L	0	<0.06	<0.06		
	TRH >C16 - C34 Fraction F3	mg/L	0	<0.5	<0.5		
	TRH >C34 - C40 Fraction F4	mg/L	0	<0.5	<0.5		

Prepared by:	MER	Date:	16/03/2016
Checked by:		Date:	

SDG	SE149528-1
Field ID	TRIP BLANK
Sampled_Date/Time	26/02/2016
Sample Type	Trip_B

Chemical Group	Chemical Name	Units	EQL	
Amino Aliphatics	n-Nitrosodiethylamine	mg/kg	0.5	
	N-Nitrosodi-n-butylamine	mg/kg	0.5	
	N-Nitrosodi-n-propylamine	mg/kg	0	
	n-Nitrosomethylethylamine	mg/kg	0.5	
Amino Aromatics	1-Naphthylamine	mg/kg	0.5	
	2-Naphthylamine	mg/kg	1	
	Diphenylamine	mg/kg	0.5	
	n-Nitrosodiphenylamine & Diphenylamine	mg/kg	0.5	
Anilines	2-Nitroaniline	mg/kg	0.5	
	3-Nitroaniline	mg/kg	0.5	
	4-Chloroaniline	mg/kg	0.5	
	4-Nitroaniline	mg/kg	0.5	
	2-methyl-5-nitroaniline	mg/kg	0.5	
	Aniline	mg/kg	0.5	
	2-methylaniline	mg/kg	1	
Asbestos	Asbestos in soil (>7mm ACM)	%w/w	0.01	
	Asbestos in soil (<2mm AF/FA)	%w/w	0.001	
	Asbestos in soil (<7mm AF/FA)	%w/w	0.001	
	Asbestos in soil (>2mm to <7mm AF/FA)	%w/w	0.001	
E-Nitrobenzenes	Nitrobenzene	mg/kg	0.5	
	Pentachloronitrobenzene	mg/kg	0	
Explosives	1,3,5-Trinitrobenzene	mg/kg	0.5	
	1,3-Dinitrobenzene	mg/kg	1	
	2,4-Dinitrotoluene	mg/kg	0.5	
	2,6-Dinitrotoluene	mg/kg	0.5	
Halogenated Benzenes	1,2,3,4-Tetrachlorobenzene	mg/kg	0	
	1,2,3,5 & 1,2,4,5 Tetrachlorobenzene	mg/kg	1	
	1,2,3-Trichlorobenzene	mg/kg	0.1	
	1,2,4-Trichlorobenzene	mg/kg	0.1	
	1,2-Dichlorobenzene	mg/kg	0.1	
	1,3-Dichlorobenzene	mg/kg	0.1	
	1,4-Dichlorobenzene	mg/kg	0.1	
	2-Chlorotoluene	mg/kg	0.1	
	4-Chlorotoluene	mg/kg	0.1	
	Bromobenzene	mg/kg	0.1	
	Chlorobenzene	mg/kg	0	
	Hexachlorobenzene	mg/kg	0	<0.1
	Pentachlorobenzene	mg/kg	0	
Heavy Metals	Arsenic	mg/kg	0	<3
	Cadmium	mg/kg	0	<0.3
	Chromium	mg/kg	0	0.4
	Copper	mg/kg	0	<0.5
	Lead	mg/kg	0	<1
	Mercury	mg/kg	0	<0.01
	Nickel	mg/kg	0	<0.5
Herbicides	Zinc	mg/kg	0	0.7
	Pronamide	mg/kg	0.5	
	Trifluralin	mg/kg	0.5	
MAH	1,2,4-trimethylbenzene	mg/kg	0.1	
	1,3,5-Trimethylbenzene	mg/kg	0.1	
	Benzene	mg/kg	0	<0.1
	Toluene	mg/kg	0	<0.1
	Isopropylbenzene	mg/kg	0.1	
	n-Butylbenzene	mg/kg	0.1	

SDG	SE149528-1
Field ID	TRIP BLANK
Sampled_Date/Time	26/02/2016
Sample Type	Trip_B

Chemical Group	Chemical Name	Units	EQL	
	n-Propylbenzene	mg/kg	0.1	
	p-Isopropyltoluene	mg/kg	0.1	
	sec-Butylbenzene	mg/kg	0.1	
	Styrene	mg/kg	0.1	
	tert-Butylbenzene	mg/kg	0.1	
	Ethylbenzene	mg/kg	0	<0.1
	Xylenes (m & p)	mg/kg	0	<0.2
	Xylene (o)	mg/kg	0	<0.1
	Xylenes (Sum of total) (Lab Reported)	mg/kg	0.3	<0.3
	Total MAHs (Lab Reported)	mg/kg	1.8	
	Total BTEX	mg/kg	0.2	<0.6
Organochlorine Pesticides	2,4-DDT	mg/kg	0.1	<0.1
	a-BHC	mg/kg	0.05	<0.1
	Aldrin	mg/kg	0	<0.1
	Aldrin & Dieldrin (Sum of total) (Lab Reported)	mg/kg	0.05	
	b-BHC	mg/kg	0.05	<0.1
	Chlordane (Sum of total)	mg/kg	0.05	
	cis-Chlordane	mg/kg	0.05	<0.1
	gamma-Chlordane	mg/kg	0.1	<0.1
	trans-Chlordane	mg/kg	0.05	
	d-BHC	mg/kg	0	<0.1
	DDD	mg/kg	0.05	<0.1
	DDE	mg/kg	0.05	<0.1
	DDT	mg/kg	0	<0.1
	DDT+DDE+DDD (Sum of total) (Lab Reported)	mg/kg	0.05	
	Dieldrin	mg/kg	0	<0.2
	Endosulfan	mg/kg	0.05	
	Endosulfan I	mg/kg	0.05	<0.2
	Endosulfan II	mg/kg	0.05	<0.2
	Endosulfan sulphate	mg/kg	0.05	<0.1
	Endrin	mg/kg	0	<0.2
	Endrin aldehyde	mg/kg	0.05	<0.1
	Endrin ketone	mg/kg	0.05	<0.1
	g-BHC	mg/kg	0.05	<0.1
	Heptachlor	mg/kg	0	<0.1
	Heptachlor epoxide	mg/kg	0.05	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	o,p-DDD	mg/kg	0.1	<0.1
	o,p-DDE	mg/kg	0.1	<0.1
	trans-Nonachlor	mg/kg	0.1	<0.1
Organophosphorous Pesticides	Azinphos-methyl	mg/kg	0.05	<0.2
	Bromophos-ethyl	mg/kg	0.05	<0.2
	Carbophenothion	mg/kg	0.05	
	Chlorfenvinphos	mg/kg	0.05	
	Chlorfenvinphos E	mg/kg	0.5	
	Chlorpyrifos	mg/kg	0	<0.2
	Chlorpyrifos-methyl	mg/kg	0.05	
	cis-Chlorfenvinphos	mg/kg	2	
	Coumaphos	mg/kg	0.5	
	Diazinon	mg/kg	0	<0.5
	Dichlorvos	mg/kg	0	<0.5
	Dimethoate	mg/kg	0.05	<0.5
	Disulfoton	mg/kg	0.5	
	EPN	mg/kg	0.5	
	Ethion	mg/kg	0	<0.2
	Ethoprop	mg/kg	0.5	
	Fenamiphos	mg/kg	0.05	
	Fenitrothion	mg/kg	0.2	<0.2
	Fenthion	mg/kg	0.05	
	Malathion	mg/kg	0.05	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Parathion-methyl	mg/kg	0.2	
	Mevinphos	mg/kg	1	
	Monocrotophos	mg/kg	0.2	
	o,o,o-Triethylphosphorothioate	mg/kg	0.5	
	Parathion	mg/kg	0.2	<0.2
	Phorate	mg/kg	0.5	
	Pirimphos-ethyl	mg/kg	0.05	
	Prothiofos	mg/kg	0.05	
	Ronnel	mg/kg	0.5	
	Stirophos	mg/kg	0.5	
Other	Chloronaphthalenes (1- + 2-)	mg/kg	1	
	Di(2-ethylhexyl) adipate	mg/kg	0.5	
	Mass of test sample	g	0.01	
	PCB 118	mg/kg	0.1	
	PCB 180	mg/kg	0.1	
	Sample weight (dry)	g	1	
	THM (Sum of total)	mg/kg	0.4	
PAH	Acenaphthene	mg/kg	0	<0.1
	Acenaphthylene	mg/kg	0	<0.1
	Anthracene	mg/kg	0	<0.1
	Benz(a)anthracene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0	<0.1
	Benzo(a)pyrene TEQ (lower bound)*	mg/kg	0.5	
	Benzo(a)pyrene TEQ (medium bound)*	mg/kg	0.5	
	Benzo(a)pyrene TEQ (upper bound)*	mg/kg	0.3	<0.3
	Benzo(b)&(k)fluoranthene	mg/kg	0.2	
	Benzo(b)&(j)fluoranthene	mg/kg	0.1	<0.1
	Benzo(g,h,i)perylene	mg/kg	0.1	<0.1
	Benzo(k)fluoranthene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Dibenz(a,h)anthracene	mg/kg	0.1	<0.1
	Benzo(a)pyrene TEQ (Calculated)	TEQ	0.2	<0.2
	Fluoranthene	mg/kg	0	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1
	Naphthalene	mg/kg	0	<0.1
	Phenanthrene	mg/kg	0	<0.1
	Pyrene	mg/kg	0	<0.1

SDG	SE149528-1
Field ID	TRIP BLANK
Sampled_Date/Time	26/02/2016
Sample Type	Trip_B

Chemical Group	Chemical Name	Units	EQL	
	PAH (Sum of Common 16 PAHs - Lab Re	mg/kg	0.5	<0.8
PAH-Others	1-Methylnaphthalene	mg/kg	0.1	<0.1
	2-Chloronaphthalene	mg/kg	0.5	
	2-Methylnaphthalene	mg/kg	0.1	<0.1
	3-Methylcholanthrene	mg/kg	0.5	
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	
Pesticides-Others	Carbaryl	mg/kg	0.5	
	Carbazole	mg/kg	0.5	
	Carbofuran	mg/kg	0	
	Chlorobenzilate	mg/kg	0.5	
	Demeton-s-methyl	mg/kg	0.05	
	Famphur	mg/kg	0.5	
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
	Pirimiphos-methyl	mg/kg	0.5	
	Profenofos	mg/kg	0.5	
	Sulfotepp	mg/kg	0.5	
	Thionazin	mg/kg	1	
Phenolics	2,4-Dimethylphenol	mg/kg	0.5	
	2,4-Dinitrophenol	mg/kg	2	
	2-Methylphenol	mg/kg	0.5	
	2-Nitrophenol	mg/kg	0.5	
	3- & 4- Methylphenol	mg/kg	1	
	4-Nitrophenol	mg/kg	1	
	Cresols (Sum of total)	mg/kg	1.5	
	Phenol	mg/kg	0	
Phenolics-Halogenated	2,3,4,6-Tetrachlorophenol	mg/kg	0.5	
	2,4,5-Trichlorophenol	mg/kg	0.5	
	2,4,6-Trichlorophenol	mg/kg	0	
	2,4-Dichlorophenol	mg/kg	0	
	2,6-Dichlorophenol	mg/kg	0.5	
	2,3,4,6 & 2,3,5,6-Tetrachlorophenol	mg/kg	1	
	2-Chlorophenol	mg/kg	0.5	
	4-Chloro-3-methylphenol	mg/kg	0.5	
	Pentachlorophenol	mg/kg	0	
Phthalates	Bis(2-ethylhexyl) phthalate	mg/kg	0	
	Butylbenzyl phthalate	mg/kg	0	
	Diethyl phthalate	mg/kg	0	
	Dimethyl phthalate	mg/kg	0	
	Di-n-butyl phthalate	mg/kg	0	
	Di-n-octyl phthalate	mg/kg	0	
Polychlorinated Biphenyls	Aroclor 1016	mg/kg	0.2	<0.2
	Aroclor 1232	mg/kg	0.2	<0.2
	Aroclor 1242	mg/kg	0.2	<0.2
	Aroclor 1248	mg/kg	0.2	<0.2
	Aroclor 1254	mg/kg	0.2	<0.2
	Aroclor 1260	mg/kg	0	<0.2
	Aroclor 1268	mg/kg	0.2	<0.2
	Aroclor 1221	mg/kg	0.2	<0.2
	Aroclor 1262	mg/kg	0.2	<0.2
	PCB (Sum of Total-Lab Reported)	mg/kg	0.1	<1
Sample Quality Parameters	Moisture	%	0.5	15
Solvents	Methyl Ethyl Ketone	mg/kg	5	
	2-Hexanone	mg/kg	5	
	Methyl iso-butyl ketone	mg/kg	1	
	Acetone	mg/kg	10	
	Acrylonitrile	mg/kg	0.1	
	Isophorone	mg/kg	0.5	
	Methyl-t-butyl ether	mg/kg	0.1	
	Vinyl acetate	mg/kg	5	
SVOCs	1,4-Naphthoquinone	mg/kg	0.5	
	2-(Acetylamino) fluorene	mg/kg	0.5	
	2-Picoline	mg/kg	0.5	
	3,3-Dichlorobenzidine	mg/kg	0.5	
	4-(Dimethylamino) azobenzene	mg/kg	0.5	
	4-Aminobiphenyl	mg/kg	0.5	
	4-Bromophenyl phenyl ether	mg/kg	0.5	
	4-Chlorophenyl phenyl ether	mg/kg	0.5	
	4-Nitroquinoline-n-oxide	mg/kg	0.5	
	Acetophenone	mg/kg	0.5	
	Azobenzene	mg/kg	1	
	Benzyl alcohol	mg/kg	1	
	Bis(2-chloroethoxy) methane	mg/kg	0.5	
	Bis(2-chloroethyl) ether	mg/kg	0.5	
	Bis(2-chloroisopropyl) ether	mg/kg	0.5	
	Dibenzofuran	mg/kg	0.5	
	Ethylmethanesulfonate	mg/kg	1	
	Hexachlorocyclopentadiene	mg/kg	0.5	
	Hexachloropropene	mg/kg	0.5	
	cis-Isosafrole	mg/kg	1	
	trans-Isosafrole	mg/kg	1	
	Methapyrilene	mg/kg	0.5	
	Methyl methanesulfonate	mg/kg	1	
	n-Nitrosomorpholine	mg/kg	0.5	
	N-Nitrosopiperidine	mg/kg	0.5	
	n-Nitrosopyrrolidine	mg/kg	0.5	
	Phenacetin	mg/kg	0.5	
	Safrole	mg/kg	0.5	
Total Petroleum Hydrocarbons	TRH C37 - C40 Fraction	mg/kg	100	
	TRH C6 - C9 Fraction	mg/kg	0	<20
	TRH C10 - C14 Fraction	mg/kg	0	
	TRH C15 - C28 Fraction	mg/kg	0	
	TRH C29 - C36 Fraction	mg/kg	0	

SDG	SE149528-1
Field ID	TRIP BLANK
Sampled_Date/Time	26/02/2016
Sample Type	Trip_B

Chemical Group	Chemical Name	Units	EQL	
	TRH+C10 - C36 (Sum of total) (Lab Report)	mg/kg	50	
	TRH+C10 - C40 (Sum of total) (Lab Report)	mg/kg	50	
	TRH C6 - C10 Fraction F1	mg/kg	0	<25
	TRH C6 - C10 Fraction Less BTEX F1	mg/kg	0	<25
	TRH >C10 - C16 Fraction F2	mg/kg	0	
	TRH >C10 - C12 Fraction Less Naphthalene	mg/kg	25	
	TRH >C16 - C34 Fraction F3	mg/kg	0	
	TRH >C34 - C40 Fraction F4	mg/kg	0	
Unknown	PCB 101	mg/kg	0.1	
	PCB 138	mg/kg	0.1	
	PCB 153	mg/kg	0.1	
	PCB 28	mg/kg	0.1	
	PCB 52	mg/kg	0.1	
Volatile Organic Compounds	1,1,1,2-Tetrachloroethane	mg/kg	0.1	
	1,1,2,2-Tetrachloroethane	mg/kg	0.1	
	1,1,1-Trichloroethane	mg/kg	0.1	
	1,1,2-Trichloroethane	mg/kg	0.1	
	1,2,3-Trichloropropane	mg/kg	0.1	
	1,2-Dibromo-3-chloropropane	mg/kg	0.1	
	1,2-Dibromoethane	mg/kg	0.1	
	1,1-Dichloroethane	mg/kg	0.1	
	1,2-Dichloroethane	mg/kg	0	
	1,1-Dichloroethene	mg/kg	0	
	cis-1,2-Dichloroethene	mg/kg	0.1	
	trans-1,2-dichloroethene	mg/kg	0.1	
	1,2-Dichloropropane	mg/kg	0.1	
	1,3-Dichloropropane	mg/kg	0.1	
	2,2-Dichloropropane	mg/kg	0.1	
	1,1-Dichloropropene	mg/kg	0.1	
	cis-1,3-Dichloropropene	mg/kg	0.1	
	trans-1,3-dichloropropene	mg/kg	0.1	
	2-Nitropropane	mg/kg	10	
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	
	Allyl chloride	mg/kg	0.1	
	Bromochloromethane	mg/kg	0.1	
	Bromodichloromethane	mg/kg	0.1	
	Bromoform	mg/kg	0.1	
	Bromomethane	mg/kg	1	
	Carbon disulfide	mg/kg	0.5	
	Carbon tetrachloride	mg/kg	0.1	
	Chlorodibromomethane	mg/kg	0.1	
	Chloroethane	mg/kg	1	
	Chloroform	mg/kg	0	
	Chloromethane	mg/kg	1	
	Dibromomethane	mg/kg	0.1	
	Dichlorodifluoromethane	mg/kg	1	
	Dichloromethane	mg/kg	0.5	
	Hexachlorobutadiene	mg/kg	0	
	Hexachloroethane	mg/kg	0	
	Iodomethane	mg/kg	0.5	
	Pentachloroethane	mg/kg	0.5	
	Trichloroethene	mg/kg	0	
	Tetrachloroethene	mg/kg	0.1	
	Trichlorofluoromethane	mg/kg	1	
	Vinyl chloride	mg/kg	0.1	

Prepared by:	MER	Date:	16/03/2016
Checked by:		Date:	

Table 4 - Groundwater Level Gauging Results
Minto Warehouse and Logistics Hub
Golder Project No. 1648232

Well Location	Date of Gauging	Gauged Well Depth (mbtoc)	Easting	Northing	TOC (mAHD)	Ground Level (mAHD)	Standpipe Stick up (m)	SWL (mbtoc)	Groundwater Elevation (mAHD)	¹ Corrected Groundwater Elevation (mAHD)
GA-BH02	26/02/2016	8.65	299920	6231514	47.09	46.56	0.53	4.73	42.359	42.359
GA-BH04	26/02/2016	7.1	300128	6230957	49.01	48.48	0.53	3.42	45.591	45.591
GA-BH05	26/02/2016	6.0	300314	6231342	48.42	47.72	0.70	3.22	45.204	45.204
GA-BH08	26/02/2016	7.1	300063	6230627	51.06	50.28	0.78	4.70	46.360	46.360

Notes:

mbtoc = metres below top of casing

TOC = Top of Casing

SWL= Standing Water Level

mAHD= metres in Australian Height Datum

PSH= Phase Separated Hydrocarbon

¹ Calculated as $h_c = h_{\text{measured}} + (H_{\text{PSH}} * \rho_{\text{PSH}} / \rho_{\text{water}})$ where pPSH is 0.7 and pwater is 1.0

NA = Not Available

ND = Not Detected

Created by:	MER	16/03/2016

Table 5 - Groundwater Field Parameters

Golder Project No. 1648232

Minto Warehouse and Logistics Hub

Location	Date Purged	Total Volume Purged (L)	DO (mg/L)	EC (µS/cm)	TDS (mg/L)	pH	Er (mV)	Eh* (mV)	Temp (°C)	Comments
GA-BH02	26/02/2016	1.5	0.48	7211	4687	6.60	47	246	20.8	Brown, medium turbidity, no odour
GA-BH04	26/02/2016	1.5	0.22	21337	13869	6.69	99	298	24.4	Brown, medium turbidity, no odour, foaming and slight sheen
GA-BH05	26/02/2016	1.5	1.80	6400	4160	6.94	-120	80	25.2	Brown, high turbidity, indeterminate odour
GA-BH08	26/02/2016	2.0	0.34	20700	13455	6.72	-66	133	25.5	Brown, medium turbidity, no odour

Notes:

PSH - Phase Separated Hydrocarbon

L = Litre

DO = Dissolved Oxygen

EC = Electrical Conductivity

µS/cm = Microsiemens per centimetre

TDS = Total Dissolved Solids (estimated based on EC value multiplied by 0.65)

*Eh = Redox Potential (measured with a platinum electrode and silver/silver chloride reference electrode (Er) and converted to Eh by $Eh = Er + 199 \text{ mV}$)

mV = Millivolts

Temp = Temperature

°C = Degree in Celsius

Created by:	MER	16/03/2016



APPENDIX C

Site Photographs



APPENDIX A

Site Photographs

1. Culverston Rd, facing south, which runs through the middle of the Site. The Site fences/boundaries are visible on both sides.



2. Inside the main warehouse building (in the 'build shed' section), facing southwest.





APPENDIX A

Site Photographs

3. Inside the main warehouse building (in the 'build shed' section), facing north.



4. Potential contaminants storage inside the main warehouse building, facing north.





APPENDIX A

Site Photographs

5. Outside the southern side of the main warehouse building, facing northeast.



6. A bakehouse inside the western side of the main warehouse building, facing north

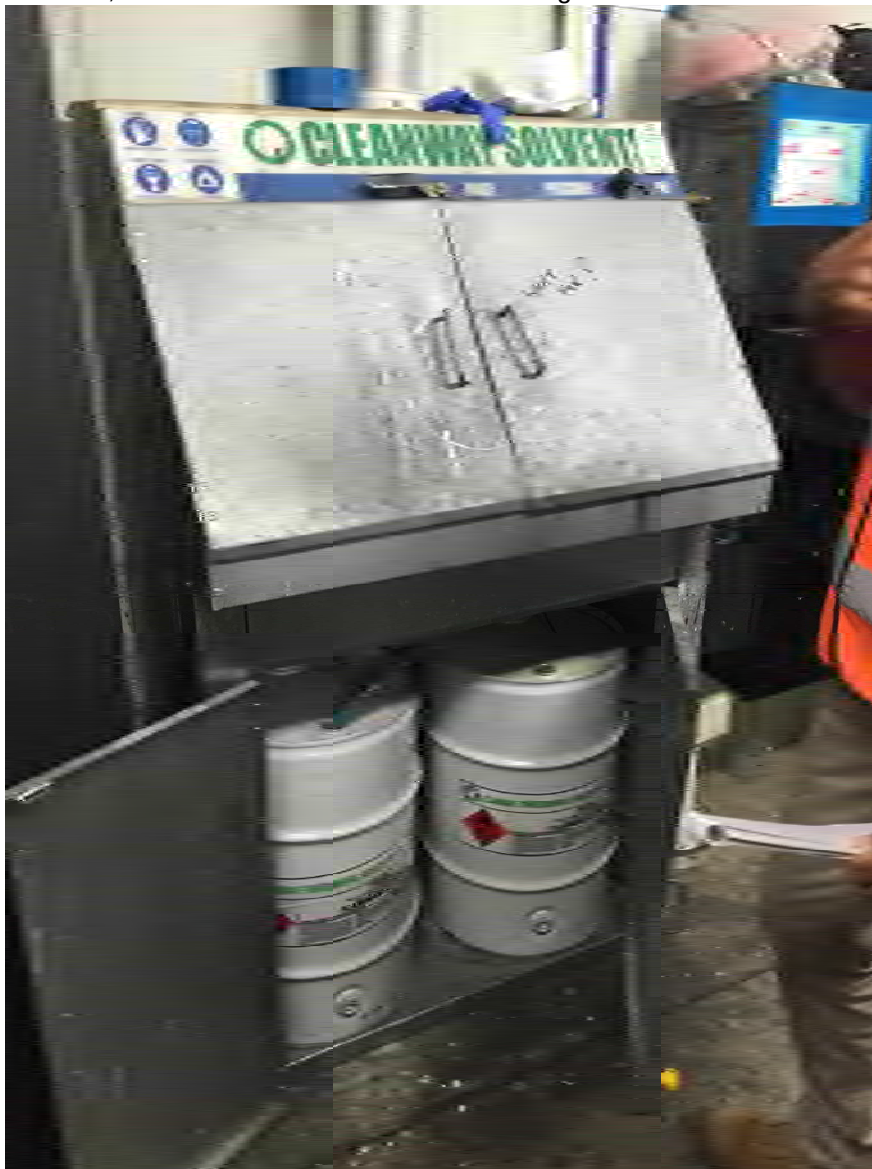




APPENDIX A

Site Photographs

7. Solvents, stored in the main warehouse building on the western side.





APPENDIX A

Site Photographs

8. Paints stored on the middle of the western extent in the main warehouse building, facing west.



9. The north-west exit from the main warehouse, facing west.





APPENDIX A

Site Photographs

10. An above ground tank, in the middle of the facility, facing northeast.



11. A tank that holds Kerosene (not operational), stored in the middle of the facility, facing northeast





APPENDIX A

Site Photographs

12. A tank that stores unleaded petrol, facing east, in the middle of the facility



13. A tank that stores diesel, facing northeast, in the middle of the facility





APPENDIX A

Site Photographs

14. A section of the car park, in the middle of the site, facing southwest.



15. A sectioned off area (with a covered hole in the ground and some fill (that had a hydrocarbon odour), facing northeast, in the middle of the facility.





APPENDIX A Site Photographs

16. A refuelling bay, in the middle of the facility, facing northwest



17. A car wash bay, in the middle of the facility, facing north





APPENDIX A

Site Photographs

18. Facing north, in the middle of the facility.



19. In the middle of the northern side of the facility, facing southwest





APPENDIX A

Site Photographs

20. Facing west, in the middle of the western border of the facility. The surrounding facilities and sloping edges into the channel are visible.



21. Facing south following the western border of the Site





APPENDIX A

Site Photographs

22. In the middle of the western border of the facility, facing east. The carwash bays are visible to the right side of the photo.



23. Lighting, which is found all around the border of the Site. Facing west, in the middle of the western border of the facility





APPENDIX A

Site Photographs

24. Facing north, along the western border of the Site (north of the middle of the Site)



25. The western boundary of the Site, facing southwest, showing a channel





APPENDIX A

Site Photographs

26. The western boundary of the Site near the northwestern corner, facing northwest, showing a channel and bridge



27. The far northwestern corner of the Site, showing a stormwater drain, facing south





APPENDIX A

Site Photographs

28. The far northwestern corner of the Site, facing southeast



29. The middle of the northern boundary, showing a steep sloping channel, facing north





APPENDIX A

Site Photographs

30. The middle of the northern boundary, showing a steep sloping channel, facing northeast



31. The northeastern corner of the Site, facing south





APPENDIX A

Site Photographs

32. The northeastern corner of the Site, facing south, showing the fill



33. In the middle of the northern part of the facility, shows a small facility?, facing northwest





APPENDIX A

Site Photographs

34. A car tent in the middle of the facility, facing northeast



35. The main warehouse building, in the middle of the facility, facing southwest





APPENDIX A

Site Photographs

36. In the middle of the eastern section of the facility (on the east side of Culverston Rd), facing east



37. In the middle of the eastern section of the facility (on the east side of Culverston Rd), facing east. A steep sloping area is visible outside the boundary of the site.





APPENDIX A

Site Photographs

38. In the middle of the eastern section of the facility (on the east side of Culverston Rd), facing east. A train on the Main Southern Railway is visible.



39. In the northeastern corner of the eastern section of the facility (on the east side of Culverston Rd), facing north





APPENDIX A

Site Photographs

40. In the northeastern corner of the eastern section of the facility (on the east side of Culverston Rd), facing southeast



41. In the northeastern corner of the eastern section of the facility (on the east side of Culverston Rd), facing northeast





APPENDIX A

Site Photographs

42. In the middle of the eastern border in the eastern section of the facility facility (on the east side of Culverston Rd), facing southeast



43. Silty clays exhibited in the southern end of the eastern border in the eastern section of the facility (on the east side of Culverston Rd), facing southeast.





APPENDIX A

Site Photographs

44. The southern border of the facility, taken from the southeastern corner, facing south west.



45. The southern section of the Site, facing northwest





APPENDIX D

Groundwater Bore Search

NSW Office of Water

Work Summary

GW110577

Licence: 10BL600119

Licence Status: ACTIVE

Authorised Purpose MONITORING BORE
(s):
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:

Construct.Method: Auger - Solid Flight

Owner Type: Private

Commenced Date:

Completion Date: 11/01/2010

Final Depth: 15.00 m

Drilled Depth: 15.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: INTEGRAL ENERGY AUST
CNR SARK GROVE &
PEMBROKE RD MINTO 2566

Standing Water Level: 6.300

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County
Form A: CUMBE
Licensed: Parish CUMBE.52
Cadastre 1//620265

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown
Area/District:

Grid Zone:

Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:

Northing: 6231147.0
Easting: 301030.0

Latitude: 34°02'29.4"S
Longitude: 150°50'40.5"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	15.00	100			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	2.50	15.00				Graded
1	1	Casing	Pvc Class 18	0.00	3.00	63	53		Seated on Bottom, Screwed
1	1	Opening	Screen	3.00	15.00	63		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Duration (hr)	Salinity (mg/L)

							Hole Depth (m)		
14.00	15.00	1.00	Unknown		6.30				

Geologists Log**Drillers Log**

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	ROAD BASE	Rock	
0.20	0.50	0.30	FIIL, CLAYEY GRAVEL,SOME COARSE SAND	Fill	
0.50	2.00	1.50	FILL, GRAVELLY CLAY.M/PLASTICITY	Fill	
2.00	2.00	0.00	CLAY,M/PLASTICITY,SOME GRAVEL	Clay	
2.00	15.00	13.00	SANDSTONE,WELL GRADED,WHITE	Sandstone	

Remarks

*** End of GW110577 ***

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

NSW Office of Water

Work Summary

GW110576
Licence: 10BL600119

Licence Status: ACTIVE

Authorised Purpose MONITORING BORE
(s):
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Auger - Solid Flight

Owner Type: Private

Commenced Date:
Completion Date: 18/10/2005

Final Depth: 13.10 m

Drilled Depth: 13.10 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:
Property: INTEGRAL ENERGY AUST
 CNR SARK GROVE &
 PEMBROKE RD MINTO 2566

Standing Water Level: 1.400

GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.52	1//620265
Licensed:		

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:
Northing: 6231235.0
Easting: 300967.0

Latitude: 34°02'26.5"S
Longitude: 150°50'38.1"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	13.10	100			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	0.70	13.10				Graded
1	1	Casing	Pvc Class 18	0.00	1.00	63	53		Seated on Bottom, Screwed
1	1	Opening	Screen	1.00	13.10	63		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Duration (hr)	Salinity (mg/L)

							Hole Depth (m)		
13.00	13.10	0.10	Unknown		1.40				

Geologists Log**Drillers Log**

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	ROAD BASE	Rock	
0.30	1.00	0.70	FILL, SANDY SILT,SOME GRAVEL	Fill	
1.00	1.80	0.80	SANDY CLAY,MEDIUM H/PLASTICITY	Sandy Clay	
1.80	13.10	11.30	SANDSTONE,SOME GRAVEL	Sandstone	

Remarks

*** End of GW110576 ***

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

NSW Office of Water

Work Summary

GW110575
Licence: 10BL600119

Licence Status: ACTIVE

Authorised Purpose (s): MONITORING BORE

Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Auger - Solid Flight

Owner Type: Private

Commenced Date:
Completion Date: 17/10/2005

Final Depth: 14.20 m

Drilled Depth: 14.20 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:
Property: INTEGRAL ENERGY AUST
CNR SARK GROVE &
PEMBROKE RD MINTO 2566

Standing Water Level: 4.300

GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.52	1//620265
Licensed:		

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:
Northing: 6231190.0
Easting: 300987.0

Latitude: 34°02'28.0"S
Longitude: 150°50'38.8"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	14.20	100			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	7.80	8.20				Graded
1	1	Casing	Pvc Class 18	0.00	8.20	63	53		Seated on Bottom, Screwed
1	1	Opening	Screen	8.20	14.20	63		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Duration (hr)	Salinity (mg/L)

							Hole Depth (m)		
11.50	14.20	2.70	Unknown		4.30				

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	ROAD BASE	Rock	
0.30	2.00	1.70	FILL, SANDY CLAY,M/H PLAST. GRAVEL	Fill	
2.00	2.50	0.50	GRAVELLY SAND,SOME CLAY	Gravelly Sandstone	
2.50	14.20	11.70	SANDSTONE,SOME GRAVEL	Sandstone	

Remarks

*** End of GW110575 ***

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



APPENDIX E

Historical Aerial Photograph

2016a



2016b



2005



1994a



1994b



1990



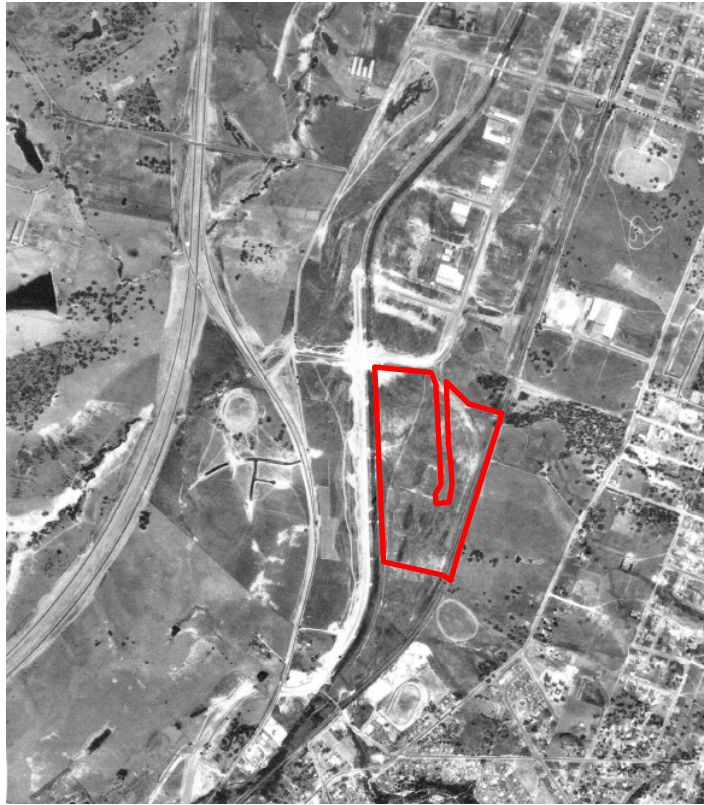
1984a



1984b



1975



1970a



1970b



1966



1947



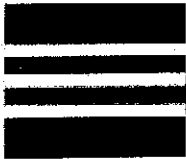
Reference: Land and Property Information



APPENDIX F

Land Titles

NEW SOUTH WALES



CERTIFICATE OF TITLE

REAL PROPERTY ACT, 1900



14783017

14783 Fol. 17
(Page 1) Vol.

Appln. Nos.28084 & 46912
Prior Title Vol.14249 Fol.108

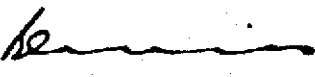
Vol. 14783 Fol. 17
EDITION ISSUED
22 6 1982



CANCELLED

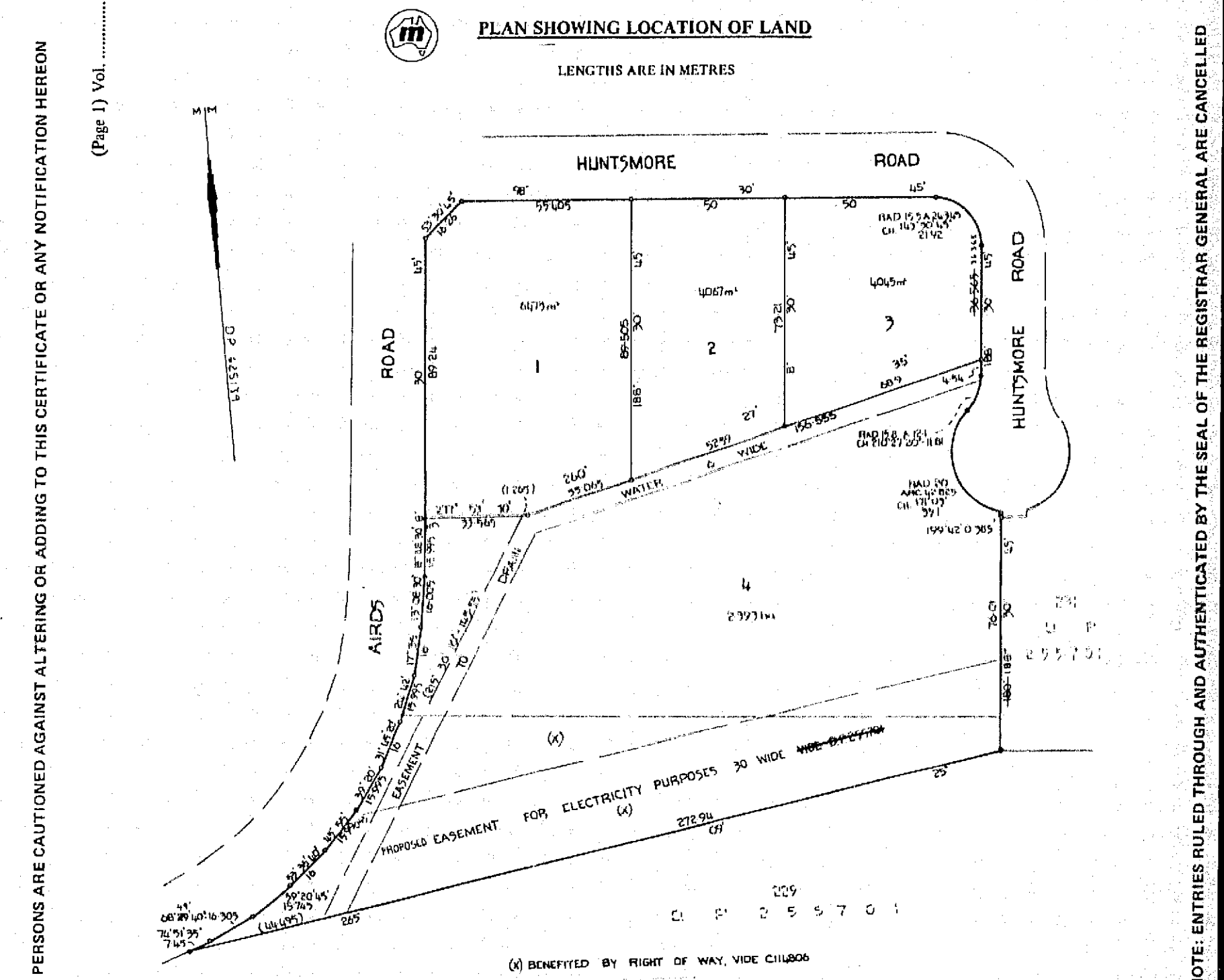
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule

SEE AUTO FOLIO



Registrar General.





ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 4 in Deposited Plan 625139 at Minto in the City of Campbelltown Parish of St. Peter and County of Cumberland being part of Portion 100 granted to Richard Knight on 20-6-1816 and part of Portion 163 granted to Thomas Rose on 3-9-1821.

FIRST SCHEDULE

~~NEW SOUTH WALES PLANNING AND ENVIRONMENT COMMISSION.~~

SECOND SCHEDULE

GRY
RWP
EW (SB)

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. C114806p Right of Way appurtenant to the part of the land above described shown so benefited affecting the land shown so burdened within Lots 1 and 2 Deposited Plan 17143.
3. DP625139p Easement to drain water affecting the part of the land above described shown so burdened in Deposited Plan 625139.

CTEST 14783-017
0934479 TCK

NOTATIONS AND UNREGISTERED DEALINGS

CANCELLED
SEE AUTO FOLIO

W934479 Transfer Government for Electricity purposes affecting the part of the land within described shown 30 route in B.P. 625139. Registered 3-7-1987.
W934479 Transfer Government for Electricity purposes affecting the part of the land within described shown 30 route in B.P. 625139. Registered 3-7-1987.
W934479 Transfer Government for Electricity purposes affecting the part of the land within described shown 30 route in B.P. 625139. Registered 3-7-1987.



SECOND SCHEDULE (continued)
PARTICULARS
Registrar General CANCELLATION

Director, Macarthur Growth Area by Transfer W755148. Registered 12-7-1985

FIRST SCHEDULE (continued)
REGISTERED PROPRIETOR
Registrar General

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

14249 108
Fol.
(Page 1) Vol.

NEW SOUTH WALES

Appln. Nos.28084 & 46912
Prior Title Vol.14063 Fol.223

CERTIFICATE OF TITLE
REAL PROPERTY ACT, 1900



14249108

Vol. **14249** Fol. **108**



EDITION ISSUED
3 10 1980

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

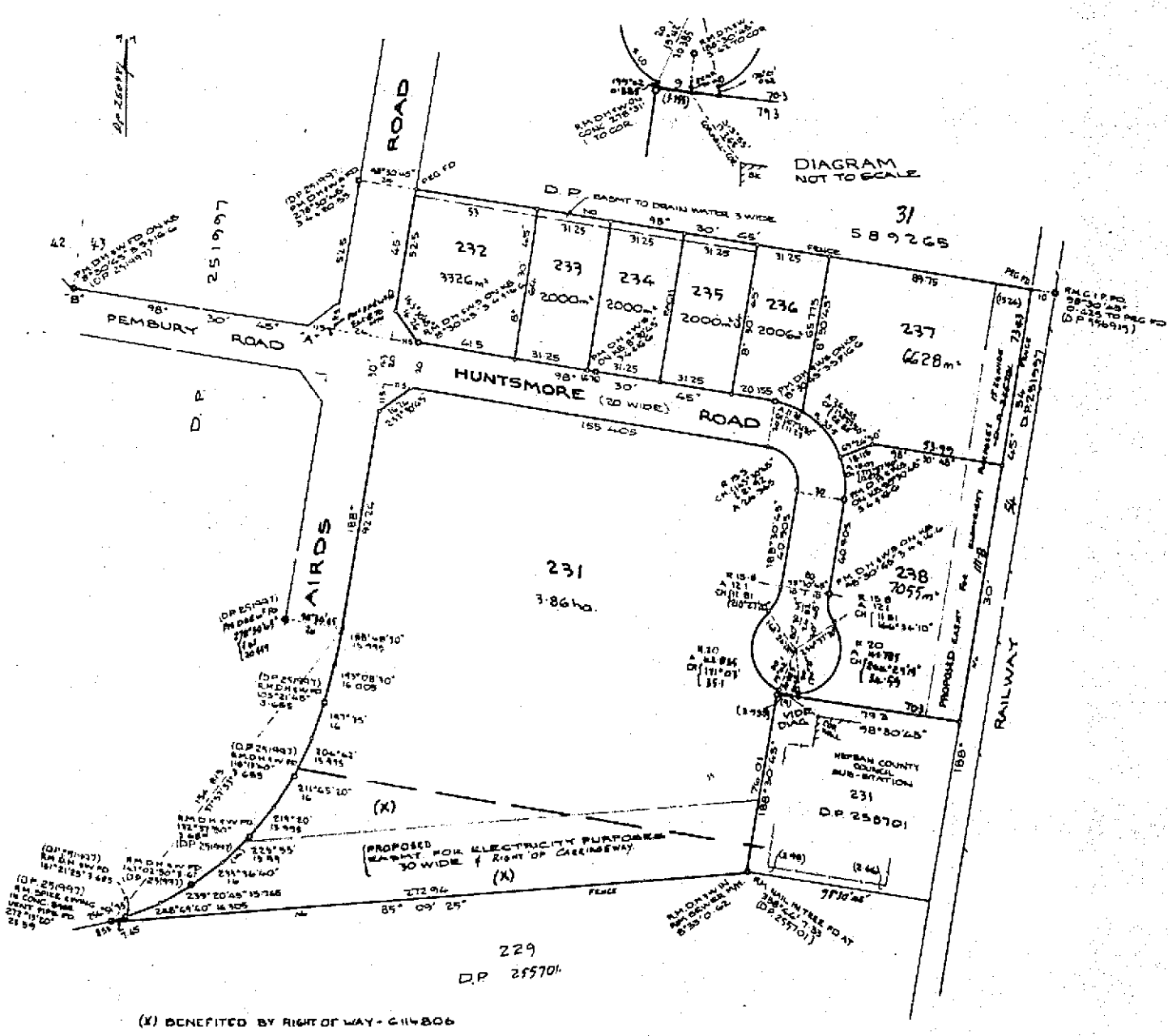
[Signature]
Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED



WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 231 in Deposited Plan 260481 at Minto in the City of Campbelltown Parish of St.Peters and County of Cumberland being part of Portion 100 granted to Richard Knight on 20-6-1816 and part of Portion 163 granted to Thomas Rose on 3-9-1821.

FIRST SCHEDULE

NEW SOUTH WALES PLANNING AND ENVIRONMENT COMMISSION.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. C114806 Right of way appurtenant to the part of the land shown so benefited in Deposited Plan 260481 affecting the land shown so burdened within Lots 1 and 2 in Deposited Plan 17143.

DP 625139.

FIRST SCHEDULE (continued)				
REGISTERED PROPRIETOR			REGISTERED	Signature of Registrar General
			INSTRUMENT	
			NATURE	NUMBER
NEW CERTIFICATE(S) OF TITLE ISSUED ON ... DP 625139 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO DEALINGS BRANCH				

SECOND SCHEDULE (continued)				
INSTRUMENT			REGISTERED	Signature of Registrar General
			CANCELLATION	
			NATURE	NUMBER
Interests created pursuant to Section 88B Conveyancing Act 1919, by the registration of Deposited Plan 625139. This deed is cancelled as to the whole 22/6/82 New Certificates of Title have issued on 22/6/82 for lots in Deposited Plan No. 625139 as follows:- Lots 1-4 Vol. 14783 Fol. 14-17 respectively.				
			7-6-1982	

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

14063 Vol. 223

NEW SOUTH WALES

CERTIFICATE OF TITLE
PROPERTY ACT, 1900



14063223

Appln. Nos. 28084 and 46912
Prior Title Vol. 13106 Fol. 42

Vol. 14063 Fol. 223



CANCELLED

EDITION ISSUED

25 2 1980

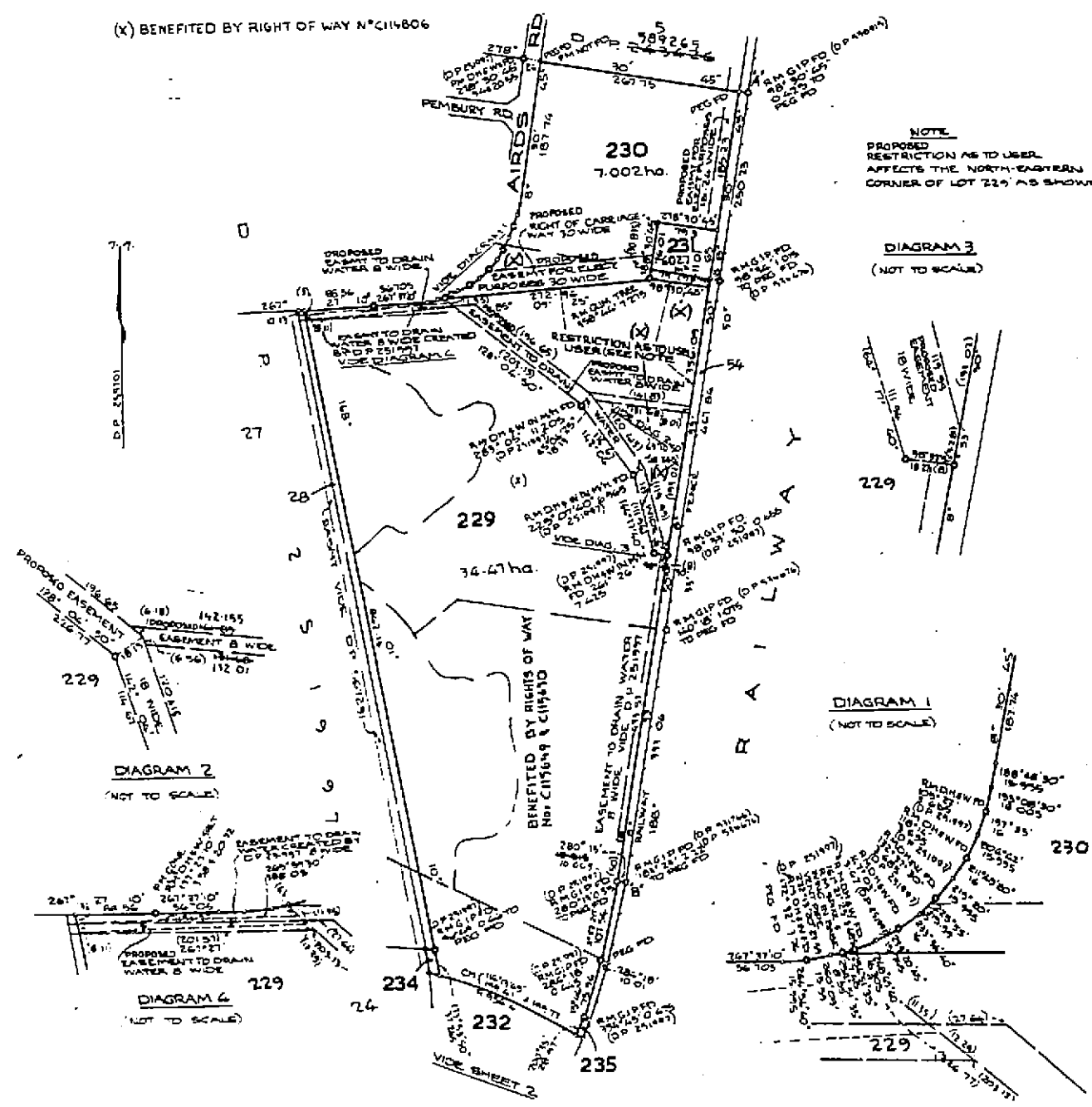
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

[Signature]
Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 230 in Deposited Plan 255701 at Minto in the City of Campbelltown Parish of St. Peter and County of Cumberland being part of Portion 100 granted to Richard Knight on 20-6-1816 and part of Portion 163 granted to Thomas Rose on 3-9-1821.

FIRST SCHEDULE

NEW SOUTH WALES PLANNING AND ENVIRONMENT COMMISSION.

SECOND SCHEDULE

1. C114806 Right of Way appurtenant to the part of the land above described shown so benefited, affecting the land shown so burdened within Lots 1 and 2 in Deposited Plan 17143.

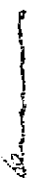
WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.

CT 2.7.8C
DP 260481
19/9/80

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR		INSTRUMENT		REGISTERED	Signature of Registrar General
NATURE		NATURE	NUMBER		
The residue of land in this folio comprises					
road					
REGISTRAR GENERAL					
NEW CERTIFICATE(S) OF TITLE ISSUING ON 22/2/81 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH.					

SECOND SCHEDULE (continued)

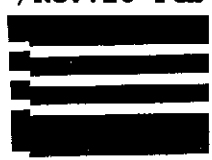
SECOND SCHEDULE (continued)						
INSTRUMENT		PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER					
	DP 260481	The interest of the Council of the City of Campbelltown in the new road shown on DP 260481	9.9.1980			
	DP 260481	Interests created pursuant to Section 83B Conveyancing Act, 1919, by the registration of Deposited Plan 260481.	9.9.1980			
		This deed is cancelled as to whole of road				
		New Certificates of Title have issued on 3-10-1980				
		for lots in Deposited Plan No 260481 as follows:-				
		Lots 231-233 Vol 14249 Folios 115 respectively.				

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

(Page 1) Vol. 14063, Fol. 222

NEW SOUTH WALES



FICATE OF TITLE

AL PROPERTY ACT, 1900



14063-222

Appln. Nos. 9038, 28084, 30647 and 40712

Vol. 14063 Fol. 222

Prior Titles Vol. 13106 Fols. 37, 41 and 42



EDITION ISSUED

25 2 1988

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

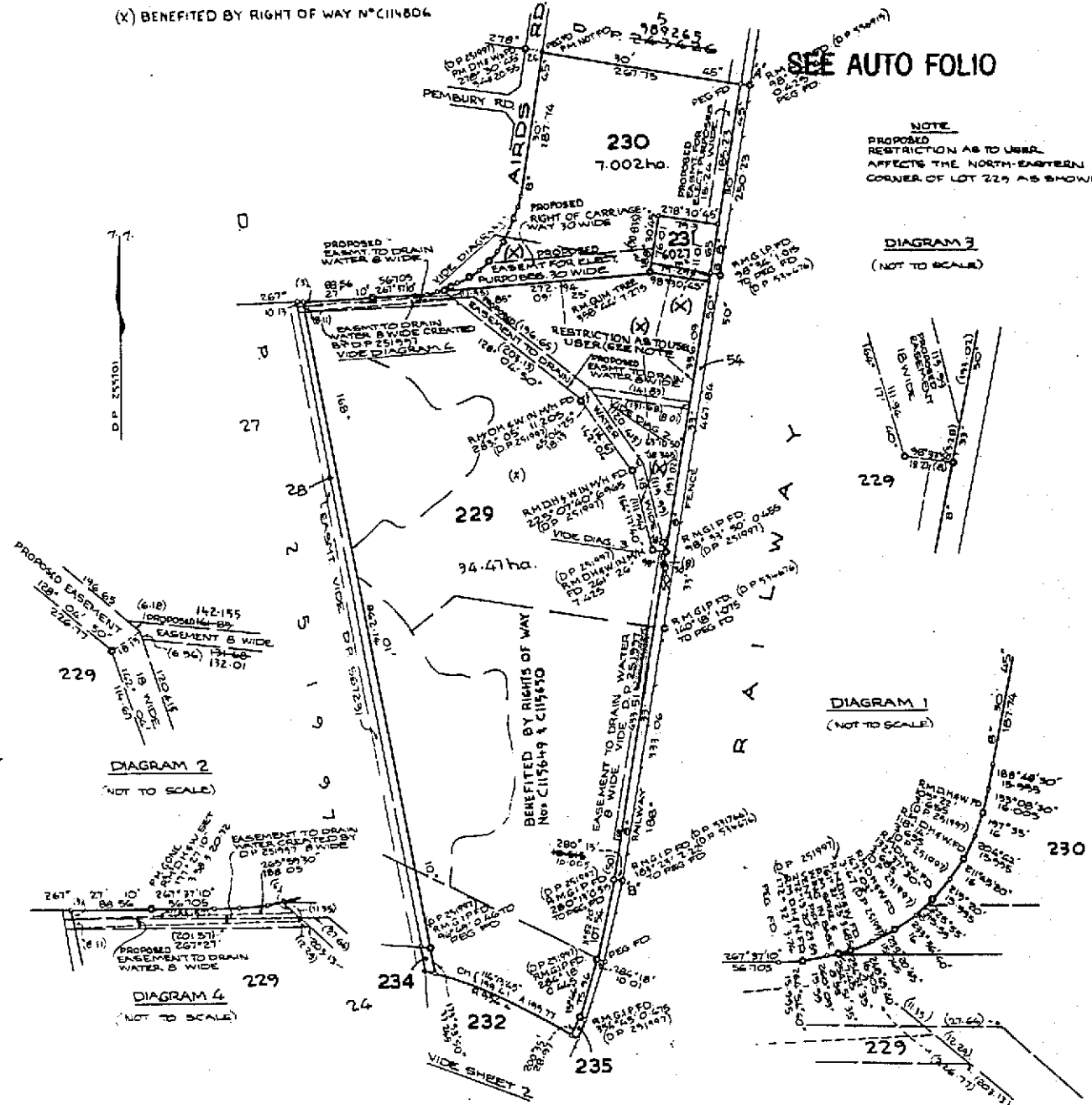


PLAN SHOWING LOCATION OF LAND

CANCELLED

LENGTHS ARE IN METRES

(X) BENEFITED BY RIGHT OF WAY N°C114806



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 229 in Deposited Plan 255701 at Minto in the City of Campbelltown Parish of St. Peter and County of Cumberland being part of Portion 98 granted to William Lane on 20-6-1816 and part of Portion 99 granted to James Welch on 20-6-1816 and part of Portion 100 granted to Richard Knight on 20-6-1816 and part of Portion 113 granted to John Neale on 20-6-1816 and part of Portion 115 granted to William Mortimer on 20-6-1816 and part of Portion 163 granted to Thomas Rose on 3-9-1821 and part of Bed of Bow Bowing Creek being land for which no Crown Grant has issued.

FIRST SCHEDULE

NEW SOUTH WALES PLANNING AND ENVIRONMENT COMMISSION.

SECOND SCHEDULE

- 1. C114806 Right of Way appurtenant to the part of the land above described shown so benefited, affecting the land shown so burdened with Lots 1 and 2 in Deposited Plan 17143.
- 2. C115649 Right of Way appurtenant to the part of the land above described shown so benefited, affecting the land shown so burdened within Lot 2 in Deposited Plan 17143.
- 3. C115650 Right of Way appurtenant to the part of the land above described shown so benefited, affecting the land shown so burdened within Lot 1 in Deposited Plan 17143.

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

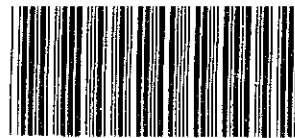
GRN
RWP
RWP
RWP

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.

NEW SOUTH WALES

CERTIFICATE OF TITLE

LAND PROPERTY ACT, 1900



13106042

Vol. 13106 Fol. 42

Appln. Nos.28084 & 46912

Prior Title Vol.11924 Fol.188



EDITION ISSUED

8 1976

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Jawatson
Registrar General.



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 30 in Deposited Plan 251997 at Minto in the City of Campbelltown Parish of St.Peter and County of Cumberland being part of Portion 100 granted to Richard Knight on 20-6-1816 and part of Portion 163 granted to Thomas Rose on 3-9-1821 and part Portion 99 granted to James Welsh on 20-6-1816.

FIRST SCHEDULE

NEW SOUTH WALES PLANNING AND ENVIRONMENT COMMISSION.

SECOND SCHEDULE

PR. DP255701

Reg. Gen.
9.5.1978

1. Right of Way created by Transfer No.C114806 appurtenant to the part of the land above described designated (C) ^{and (D)} in the plan hereon affecting the Right of Way shown within Lots 1 and 2 in Deposited Plan 17143.
- ~~2. Right of Way created by Transfer No.C115649 appurtenant to the part of the land above described designated (C) and (D) in the plan hereon affecting the Right of Way shown within Lot 2 in Deposited Plan 17143.~~
- ~~3. Right of Way created by Transfer No.C115650 appurtenant to the part of the land above described designated (C) and (D) in the plan hereon affecting the Right of Way shown within Lot 1 in Deposited Plan 17143.~~
34. Easement to Drain Water appurtenant to the land above described affecting the piece of land designated (G) in plan hereon created by the registration of Deposited Plan 251997.
See P713204.

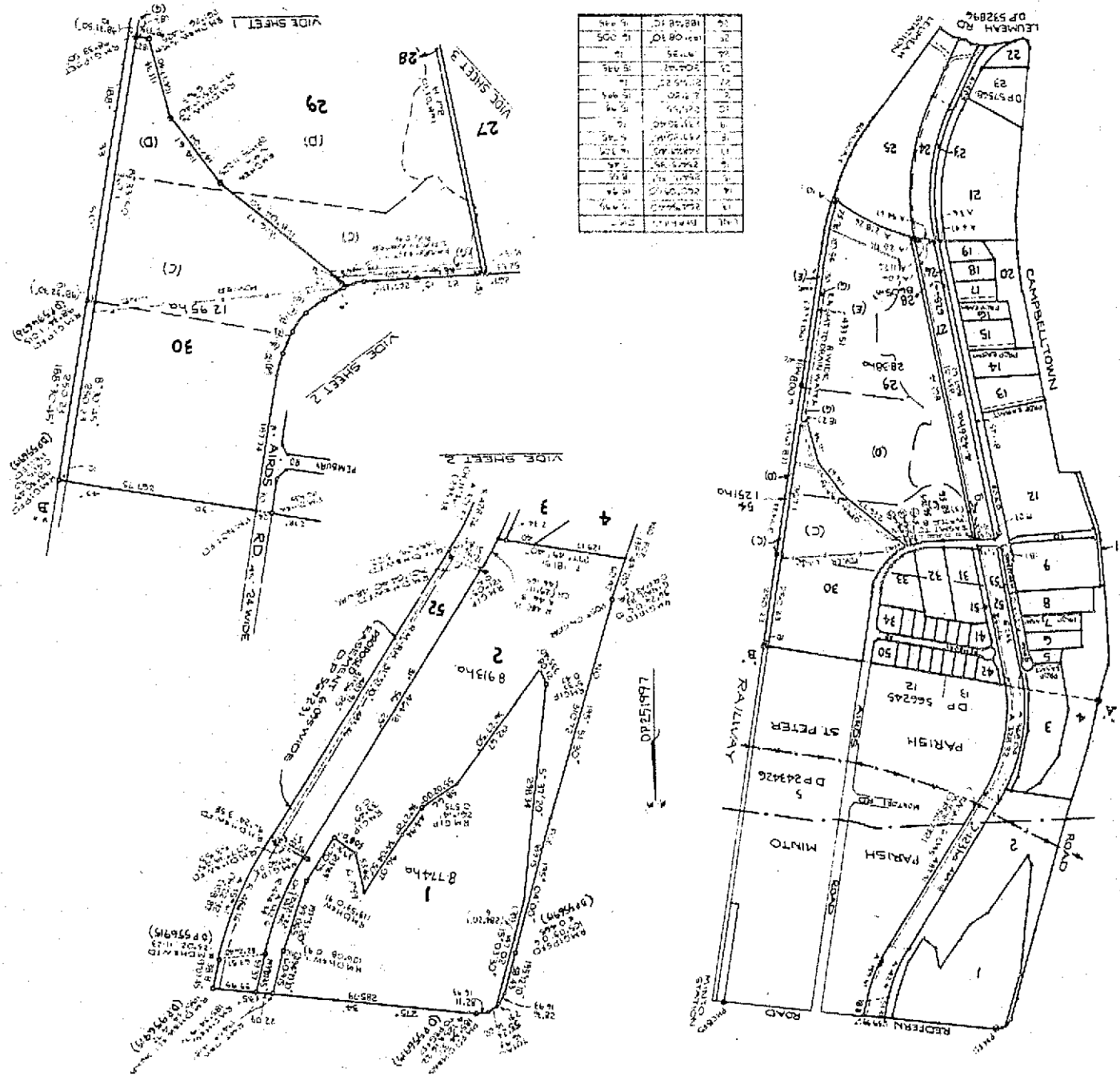
PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

1979M7

Reg. Gen.
21.1.1980

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.



PLAN SHOWING LOCATION OF LAND
LENGTHS ARE IN METRES



REGISTERED PROPRIETOR

This deed is cancelled as to whole
New Certificates of Title have issued on 25-2-1980
for lots in Defatted plan No 235701 as follows:-
Lots 229/33 Vol. 14063 Fol. 222/8 respectively.

[illegible]

Expenditure is drawn under created by DPSS 1997, pursuant to the limit within described is cancelled as regards the part now comprised in Lot 229 DPSS 5701

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

[illegible]

SECOND SCHEDULE (continued)

[illegible]

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

FIFICATE OF TITLE

[illegible]

Vol. 11924 Fol. 188

Edition issued 6-9-1972

CONTROLLED W



Witness *Barnes*

Joubert
Registrar General.



and Leumeah

Reg. Gen.
6-9-1972

Lot and Deposited Plan	Parish	Number of Portion	Name of Grantee	Date of Grant
Lot 2 in D.P.556915	Minto	Pt.35	John Pendergast	20 - 6 - 1816
	Minto	Pt.36	Edward Myles	20 - 6 - 1816
	St.Peter	Pt.96	Jeremiah Smith	20 - 6 - 1816
		Pt.97	William Kitson	20 - 6 - 1816
		Pt.98	William Lane	20 - 6 - 1816
		Pt.99	James Welch	20 - 6 - 1816
		Pt.100	Richard Knight	20 - 6 - 1816
		Pt.101	Sarah Byrne	20 - 6 - 1816
		Pt.110	John Craft	20 - 6 - 1816
		Pt.113	John Neale	20 - 6 - 1816
		Pt.115	William Mortimer	20 - 6 - 1816
		Pt.116	James Fletcher	20 - 6 - 1816
		Pt.128	William Ray	20 - 6 - 1816
		Pt.163	Thomas Rose	3 - 9 - 1821
			Pt.of Bed of Bow Bowling Creek.	For which no Crown Grant has issued.

THE STATE PLANNING AUTHORITY OF NEW SOUTH WALES.

Registrar General.

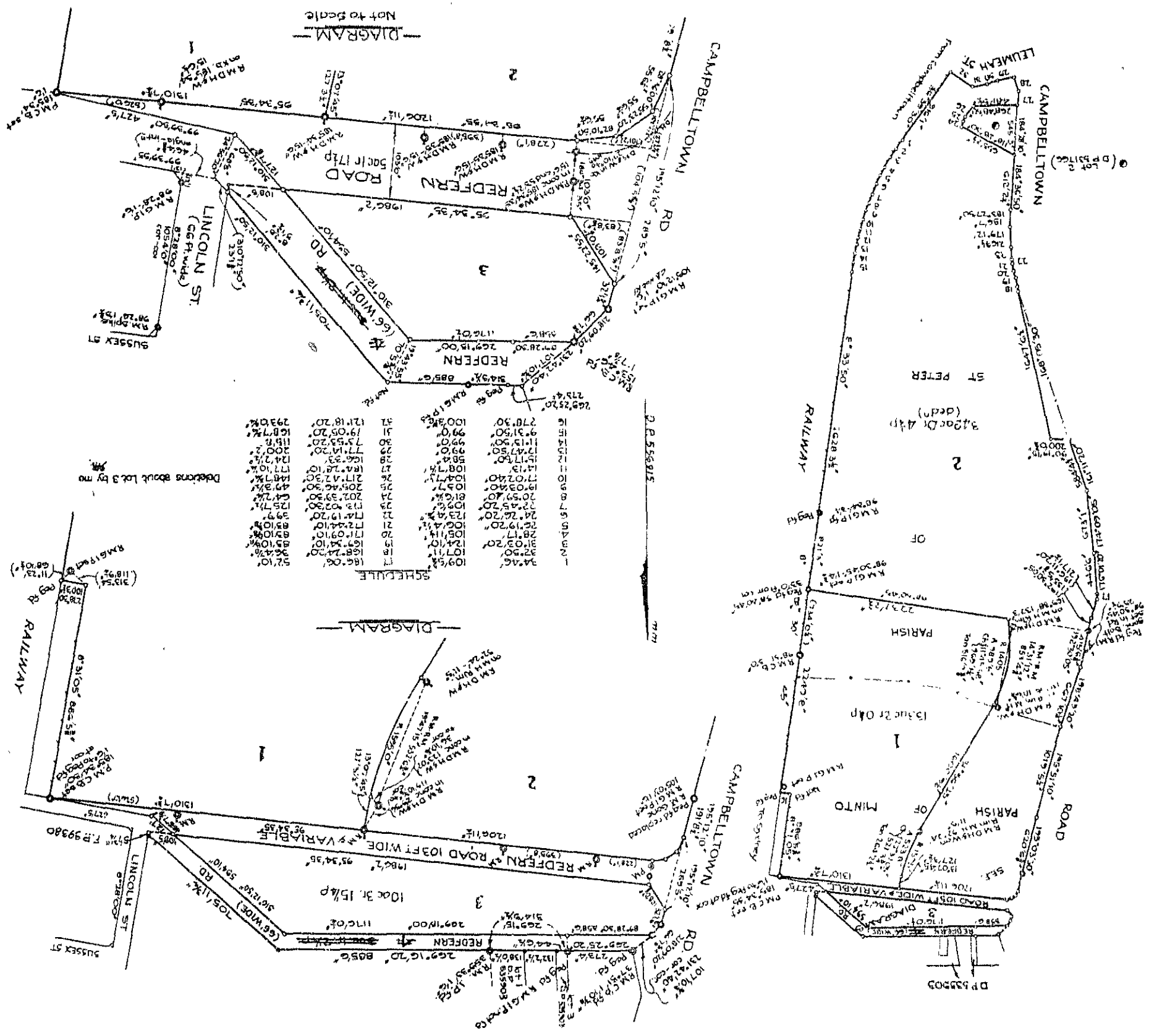
1. Right of Way created by Transfer No.C114806 appurtenant to part of the land above described affecting the Right of Way shown within Lots 1 and 2 in Deposited Plan 17143.
2. Right of Way created by Transfer No.C115649 appurtenant to part of the land above described affecting the part of Lot 2 shown in Deposited Plan 17143 as Right of Way.
3. Right of Way created by Transfer No.C115650 appurtenant to part of the land above described affecting the part of Lot 1 shown in Deposited Plan 17143 as Right of Way.

Jarvis
Registrar General.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON



FIRST SCHEDULE (continued)

FIRST SCHEDULE (continued)				ENTERED	Signature of Registrar General
REGISTERED PROPRIETOR	INSTRUMENT				
	NATURE	NUMBER	DATE		
NEW CERTIFICATE(S) OF TITLE ISSUING ON DP 583995 AND DP 581397 NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH	This deed is cancelled as to the road New Certificates of Title have issued on 10-8-76 for lots in Deposited Plan No 583 995 as follows:- Lots 131-132 Vol 13106 fol 67-68 respectively.				

SECOND SCHEDULE (continued)

INSTRUMENT		ENTERED	Signature of Registrar General	CANCELLATION
NATURE	NUMBER			
883 INET	P 713204	30-7-1973 23-6-1976 23-6-1976	Jenkinson Jenkinson	
THE INTEREST OF THE COUNCIL OF THE CITY OF CAMPBELLTOWN IN THE ADDITIONS TO EXISTING ROAD PROVIDED IN D.P. 502421 Interests created pursuant to Section 88B Conveyancing Act, 1919, by the registration of Deposited Plan 251997. INTEREST OF THE COUNCIL OF THE CITY OF CAMPBELLTOWN IN THE NEW ROAD SHOWN ON D.P. 251997 This deed is cancelled as to the residue New Certificates of Title have issued on 11-8-76 for lots Deposited 1 583995 as follows:- Lots 1-13 Vol 13106 fol 14-25 respectively. 14-54 Vol 13106 fol 26-66  Jenkinson REGISTRAR GENERAL				

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

DP56-27
of Jan 1961
28 1961
DP567231
~~DP567231~~

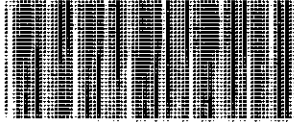
SECOND SCHEDULE (continued)

(Page 1) Vol. 11276 Fol. 219

NEW SOUTH WALES

46912

CERTIFICATE OF TITLE
PROPERTY ACT, 1900, as amended.



11276219

Applications Nos. 19331 and 46

For Crown Grants see Schedule

Prior Title Volume 11132 Folio 59



Vol. 11276 Fol. 219

EH Edition issued 16-3-1970

CANCELLED

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *Barnes*

Jawatson
Registrar General.



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in the land set out in the Schedule of Grants hereunder at Minto and Leumeah in the City of Campbelltown Parishes of Minto and St.Peter and County of Cumberland.

SCHEDULE OF GRANTS.

Lot and Deposited Plan	Parish	Number of Portion	Name of Grantee	Date of Grant
Lot 1 D.P.238859	Minto	Pt.29	William Redfern	22 - 5 - 1811
		Pt.35	John Fendergast	20 - 6 - 1816
		Pt.36	Edward Myles	20 - 6 - 1816
	St.Peter	Pt.101	Sarah Byrne	20 - 6 - 1821
	St.Peter	Pt.163	Thomas Rose	3 - 9 - 1821
	Minto & St.Peter	Pt. of Bed of Bow Bowling Creek	For which no Crown	Grant issued.

FIRST SCHEDULE

THE STATE PLANNING AUTHORITY OF NEW SOUTH WALES.

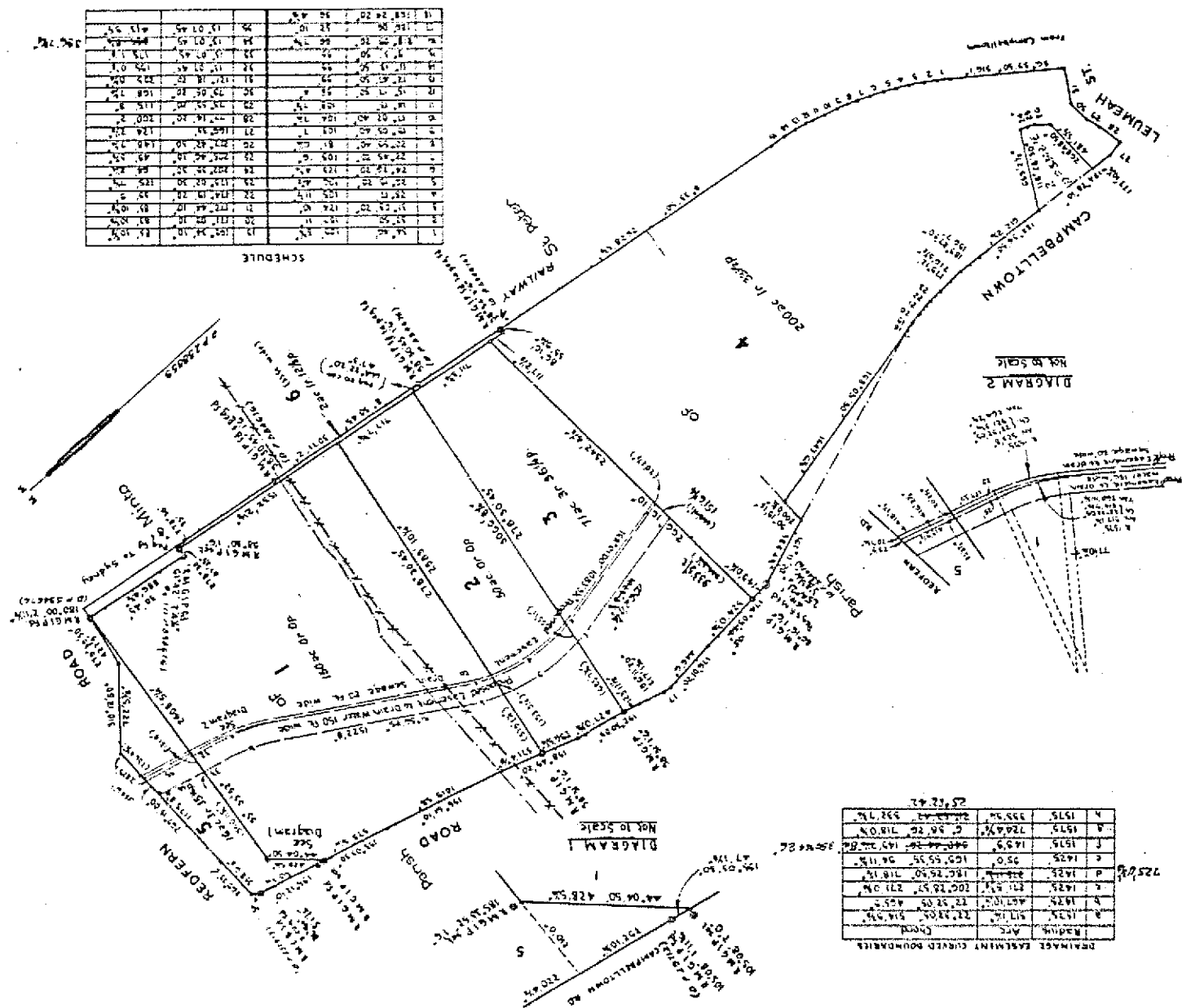
Jawatson
Registrar General.

SECOND SCHEDULE

NIL.

Jawatson
Registrar General.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.



FIRST SCHEDULE (continued)

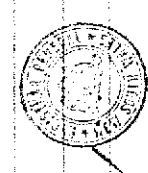
REGISTERED PROPRIETOR		INSTRUMENT			ENTERED	Signature of Registrar General
NATURE	NUMBER	DATE				
Deposited Plan	556915				4-10-1972	Jamboum

This Deed is cancelled as to part and New Certificates of Title Vol 11924 Fols 188-189 issued on 6-9-1972 for lots 2-3

This deed is cancelled as to the Residue ex road
New Certificates of Title have issued on 6-9-1972
for lots in Deposited Plan No. 243426 as follows:-
Lots 1 to 6 incl Vol 11924 Fols 182 to 187 respectively.


Jamboum
REGISTRAR GENERAL

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS			ENTERED	Signature of Registrar General	CANCELLATION
NATURE	NUMBER	DATE					
			In the interest of the Council of the City of Campbelltown in the new roads shown in D.P. 243426.		23-8-1972	Jamboum	
			The residue of land in this certificate of title comprises road in DP 243426 Entered 4th October 1972  Jamboum REGISTRAR GENERAL.				

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

[illegible]

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED



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Information provided through Tri-Search an approved LPI/NSW Information Broker

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 400/875711

SEARCH DATE	TIME	EDITION NO	DATE
4/2/2016	2:17 PM	7	15/12/2015

LAND

LOT 400 IN DEPOSITED PLAN 875711
AT MINTO
LOCAL GOVERNMENT AREA CAMPBELLTOWN
PARISH OF ST PETER COUNTY OF CUMBERLAND
TITLE DIAGRAM DP875711

FIRST SCHEDULE

MINTO PROPERTIES PTY. LIMITED

SECOND SCHEDULE (12 NOTIFICATIONS)

- 1 DP17143 RIGHT OF WAY APPURTENANT TO THE PARTS SHOWN SO BENEFITED IN THE TITLE DIAGRAM
- 2 C114806 RIGHT OF WAY APPURTENANT TO THE PARTS SHOWN SO BENEFITED IN THE TITLE DIAGRAM AFFECTING THE PART SHOWN SO BURDENED IN DP17143
- 3 C115649 C115650 RIGHTS OF WAY APPURTENANT TO THE PARTS SHOWN SO BENEFITED IN THE TITLE DIAGRAM AFFECTING THE PARTS SHOWN SO BURDENED IN LOTS 1 & 2 IN DP17143
- 4 W934479 EASEMENT FOR TRANSMISSION LINE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 5 DP817793 EASEMENT FOR ELECTRICITY PURPOSES AFFECTING THE PARTS SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 6 DP817793 EASEMENT TO DRAIN WATER 10 WIDE AND VARIABLE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 7 DP817793 EASEMENT FOR TELECOM AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 8 DP817793 EASEMENT TO DRAIN WATER 3 WIDE AFFECTING THE PARTS SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 9 DP817793 EASEMENT TO DRAIN WATER 10 WIDE AND VARIABLE APPURTENANT TO THE PART SHOWN SO BENEFITED AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- 10 DP817793 RESTRICTION(S) ON THE USE OF LAND
- 11 5836788 EASEMENT FOR PADMOUNT SUBSTATION 1 & 2.75 WIDE AFFECTING THE PART OF THE LAND SHOWN DESIGNATED (A) IN DP269090
- 12 AK70688 LEASE TO PRIXCAR SERVICES PTY LIMITED EXPIRES: 22/8/2016.
AK70689 VARIATION OF LEASE AK70688 EXPIRY DATE NOW

END OF PAGE 1 - CONTINUED OVER

Minto NS

PRINTED ON 4/2/2016

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



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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 400/875711

PAGE 2

SECOND SCHEDULE (12 NOTIFICATIONS) (CONTINUED)

22/12/2016.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Minto NS

PRINTED ON 4/2/2016

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



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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 3/817793

SEARCH DATE	TIME	EDITION NO	DATE
-----	----	-----	----
15/4/2016	12:36 PM	9	15/12/2015

LAND

LOT 3 IN DEPOSITED PLAN 817793
AT MINTO
LOCAL GOVERNMENT AREA CAMPBELLTOWN
PARISH OF ST PETER COUNTY OF CUMBERLAND
TITLE DIAGRAM DP817793

FIRST SCHEDULE

MINTO PROPERTIES PTY LIMITED (T 5475905)

SECOND SCHEDULE (5 NOTIFICATIONS)

- 1 C114806 RIGHT OF WAY APPURTENANT TO PART OF THE LAND ABOVE DESCRIBED SHOWN SO BENEFITED IN THE TITLE DIAGRAM AFFECTING THE PART SHOWN SO BURDENED IN DP17143
- 2 C115649 C115650 RIGHTS OF WAY APPURTENANT TO PART OF THE LAND ABOVE DESCRIBED SHOWN SO BENEFITED IN THE TITLE DIAGRAM AFFECTING THE PART SHOWN SO BURDENED IN DP17143
- 3 EASEMENT(S) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM CREATED BY:
 - W934479 -EASEMENT FOR TRANSMISSION LINE
 - DP817793 -EASEMENT TO DRAIN WATER 10 WIDE & VARIABLE
 - DP817793 -EASEMENT FOR ELECTRICITY PURPOSES
 - DP817793 -EASEMENT FOR UNDERGROUND MAINS
 - DP817793 -EASEMENT TO DRAIN WATER 3 WIDE
- 4 DP817793 RESTRICTION(S) ON THE USE OF LAND
- 5 AK70707 LEASE TO PRIXCAR SERVICES PTY LIMITED EXPIRES: 22/8/2016.
 - AK70708 VARIATION OF LEASE AK70707 EXPIRY DATE NOW 22/12/2016.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***



APPENDIX G

Regulatory Searches

CLM Search (Campbelltown City Council)

Search results

Your search for: LGA: Campbelltown City Council

Matched 3 notices relating to 1 site

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
CAMPBELLTOWN	52 Blaxland ROAD	Chemical Storage	3 former

Page 1 of 1

4 February 2016

No sites within 500 or 1000m of Site.

Environment Protection Licence

Licence - 12824



Licence Details	
Number:	12824
Anniversary Date:	14-February

Licensee	
TOYO TYRE & RUBBER AUSTRALIA LIMITED	
PO BOX 5084, MINTO BUSINESS CENTRE	
MINTO NSW 2566	

Premises	
TOYO TYRE AND RUBBER	
137-149 AIRDS ROAD	
MINTO NSW 2566	

Scheduled Activity	
Chemical Production	
Chemical Storage	

Fee Based Activity	Scale
General chemicals storage	0-5000 kL stored
Rubber products/tyre production	> 5000 T produced

Region	
Metropolitan - Illawarra	
Level 3, NSW Govt Offices, 84 Crown Street	
WOLLONGONG NSW 2500	
Phone: (02) 4224 4100	
Fax: (02) 4224 4110	
PO Box 513 WOLLONGONG EAST	
NSW 2520	

Environment Protection Licence

Licence - 12824



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Environment Protection Licence

Licence - 12824



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Environment Protection Licence

Licence - 12824



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

Licence - 12824



The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

TOYO TYRE & RUBBER AUSTRALIA LIMITED
PO BOX 5084, MINTO BUSINESS CENTRE
MINTO NSW 2566

subject to the conditions which follow.

Environment Protection Licence

Licence - 12824



1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Chemical Storage	General chemicals storage	0 - 5000 kL stored
Chemical Production	Rubber products/tyre production	> 5000 T produced

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
TOYO TYRE AND RUBBER
137-149 AIRDS ROAD
MINTO
NSW 2566
LOT 12 DP 251997, LOT 131 DP 583995

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of

Environment Protection Licence

Licence - 12824



monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air			
EPA identi- fication no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Roof exhaust stack from Banbury mixer labelled DP1 on drawing titled "Site and Floor Plan" dated 5/9/03 on file LIC07/2744.
2	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Roof exhaust stack from Banbury mixer labelled DP2 on drawing titled "Site and Floor Plan" dated 5/9/03 on file LIC07/2744.
3	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Roof exhaust stack from Banbury mixer labelled DP3 on drawing titled "Site and Floor Plan" dated 5/9/03 on file LIC07/2744.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.

L2.4 Air Concentration Limits

POINT 1,2,3

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	10			

Environment Protection Licence

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L3 Waste

- L3.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2005	As specified in each particular resource recovery exemption	NA
NA	Waste	Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time	-	NA

- L3.2 The quantity of hazardous, and/or restricted solid and/or liquid waste stored on the premises must not exceed 5 tonnes at any one time.

L4 Noise limits

- L4.1 Noise from the premises under non-adverse meteorological condition as defined in the NSW EPA Industrial Noise Policy must not exceed:

- (a) 40dB(A) LAeq(15 minute) during the day (7am to 6pm) Monday to Saturday and 8am to 6pm Sunday; and
- (b) 40dB(A) LAeq(15 minute) during the evening (6pm to 10pm) Monday to Friday; and
- (c) at all other times 40dB(A) LAeq (15 minute), except as expressly provided by this licence.

Where LAeq means the equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.

- L4.2 Noise from the premises under adverse meteorological condition as defined in the NSW EPA Industrial Noise Policy must not exceed:

- (a) 53dB(A) LAeq(15 minute) during the day (7am to 6pm) Monday to Saturday and 8am to 6pm Sunday; and
- (b) 52dB(A) LAeq(15 minute) during the evening (6pm to 10pm) Monday to Friday; and
- (c) at all other times 42dB(A) LAeq (15 minute), except as expressly provided by this licence.

Where LAeq means the equivalent continuous noise level – the level of noise equivalent to the

Environment Protection Licence

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energy-average of noise levels occurring over a measurement period.

L4.3 To determine compliance with condition(s) L4.1 noise must be measured at, or computed for, 17 Bungan Place, Woodbine. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the "Environmental Noise Management - NSW Industrial Noise Policy (January 2000)".

L4.4 The noise emission limits identified in this licence apply under all meteorological conditions except:
 a) during rain and wind speeds (at 10m height) greater than 3m/s; and
 b) under "non-significant weather conditions".

Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.

L5 Potentially offensive odour

L5.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

Note: Should odour emissions become an issue, the EPA will consider requiring an investigation into the issue and implementation of further odour control measures.

L6 Other limit conditions

L6.1 Polychlorinated Biphenyls (PCBs)

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the "Chemical Control Order in Relation to Materials and Wastes Containing Polychlorinated Biphenyl, 1997".

L6.2 Asbestos

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the Protection of the Environment Operations (Waste) Regulation 2005.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

Environment Protection Licence

Licence - 12824



O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O4 Emergency response

O4.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

O5 Processes and management

O5.1 The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the DECC Waste Classification Guidelines as in force from time to time.

O5.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

Environment Protection Licence

Licence - 12824



- M1.2** All records required to be kept by this licence must be:
- a) in a legible form, or in a form that can readily be reduced to a legible form;
 - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3** The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
- a) the date(s) on which the sample was taken;
 - b) the time(s) at which the sample was collected;
 - c) the point at which the sample was taken; and
 - d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

- M2.1** For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 1,2,3

Pollutant	Units of measure	Frequency	Sampling Method
Dry gas density	kilograms per cubic metre	Yearly	TM-23
Moisture content	percent	Yearly	TM-22
Molecular weight of stack gases	grams per gram mole	Yearly	TM-23
Temperature	Celsius	Yearly	TM-2
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15
Velocity	metres per second	Yearly	TM-2
Volumetric flowrate	cubic metres per second	Yearly	TM-2

M3 Testing methods - concentration limits

- M3.1** Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
 - b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
 - c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Environment Protection Licence

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Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 The preceding two conditions do not apply until 3 months after:

- a) the date of the issue of this licence or
- b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

Environment Protection Licence

Licence - 12824



- a) a Statement of Compliance; and
- b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

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- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Environment Protection Licence

Licence - 12824



G2 Other general conditions

G2.1 Completed Pollution Reduction Programs (PRP)

PRP	Description	Completed Date
PRP 1 - Noise Mitigation	Noise Mitigation Install noise mitigation measures and undertake noise monitoring to confirm the premises meets its licence noise limits by 30 November 2009.	30-June-2009

Environment Protection Licence

Licence - 12824



Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Ms Debbie Maddison

Environment Protection Authority

(By Delegation)

Date of this edition: 14-February-2008

End Notes

- 1 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 2 Licence varied by notice 1084431, issued on 21-Apr-2009, which came into effect on 21-Apr-2009.
- 3 Licence varied by notice 1104873, issued on 12-Aug-2009, which came into effect on 12-Aug-2009.
- 4 Licence varied by notice 1110730, issued on 27-May-2010, which came into effect on 27-May-2010.
- 5 Licence varied by notice 1118722, issued on 27-Aug-2010, which came into effect on 27-Aug-2010.
- 6 Licence varied by correction to scheduled activity name, issued on 21-Dec-2010, which came into effect on 21-Dec-2010.
- 7 Licence varied by notice 1504626 issued on 06-Mar-2012

Environment Protection Licence



Licence - 20638

Licence Details	
Number:	20638
Anniversary Date:	25-November

Licensee
MINTO RECYCLING PTY LTD
PO BOX 7
ENFIELD NSW 2136

Premises
WASTE TRANSFER STATIONS
13 PEMBURY ROAD
MINTO NSW 2566

Scheduled Activity
Waste Processing (non-thermal treatment)

Fee Based Activity	Scale
Non-thermal treatment of general waste	Any T treated

Region
Waste & Resources - Waste Management
59-61 Goulburn Street
SYDNEY NSW 2000
Phone: (02) 9995 5000
Fax: (02) 9995 5999
PO Box A290 SYDNEY SOUTH
NSW 1232

Environment Protection Licence



Licence - 20638

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Environment Protection Licence

Licence - 20638



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

MINTO RECYCLING PTY LTD
PO BOX 7
ENFIELD NSW 2136

subject to the conditions which follow.

Environment Protection Licence

Licence - 20638



1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Waste Processing (non-thermal treatment)	Non-thermal treatment of general waste	Any T treated

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
WASTE TRANSFER STATIONS
13 PEMBURY ROAD
MINTO
NSW 2566

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes

Environment Protection Licence

Licence - 20638



of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Building and demolition waste	Concrete, masonry, tiles, ceramics, timber, plastic, glass, paper and cardboards	Resource recovery	
NA	Scrap metal	Ferrous and non-ferrous materials	Resource recovery	

L2.2 The authorised amount of waste permitted on the premises cannot exceed 7500 tonnes at any time.

L2.3 The total amount of waste received must not exceed 30,000 tonnes per annum.

L3 Potentially offensive odour

L3.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

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4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 Activities must be carried out in a manner that minimises the generation of dust.

O3.2 The premises must be maintained in a condition which prevents the emission of dust from the premises.

O3.3 The licensee must ensure that no material, including sediment or oil, is tracked from the premises.

O3.4 Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading.

O4 Emergency response

O4.1 The licensee must prepare, maintain and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises.

NOTE: The licensee must develop their PIRMP in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations Act 1997 (the POEO Act) and the POEO Regulations.

O5 Processes and management

O5.1 Any waste for processing, storage or resource recovery at the premises must be assessed and classified in accordance with the *EPA Waste Classification Guidelines* as in force from time to time.

O5.2 There must be no burning or incineration of waste at the premises.

O5.3 Clean stormwater must be diverted away from all areas where waste is located

Environment Protection Licence

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O6 Waste management

- O6.1 Stockpiles of any size are not permitted in the unenclosed, open yard area.
- O6.2 Stockpiles are not to exceed 4 metres in height.

5 Monitoring and Recording Conditions

M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
 - a) in a legible form, or in a form that can readily be reduced to a legible form;
 - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
 - a) the date(s) on which the sample was taken;
 - b) the time(s) at which the sample was collected;
 - c) the point at which the sample was taken; and
 - d) the name of the person who collected the sample.

M2 Recording of pollution complaints

- M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M2.2 The record must include details of the following:
 - a) the date and time of the complaint;
 - b) the method by which the complaint was made;
 - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - d) the nature of the complaint;
 - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - f) if no action was taken by the licensee, the reasons why no action was taken.
- M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

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M3 Telephone complaints line

- M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M3.3 The preceding two conditions do not apply until 3 months the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
 - a) a Statement of Compliance; and
 - b) a Monitoring and Complaints Summary.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- R1.3 Where this licence is transferred from the licensee to a new licensee:
 - a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
 - a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years

Environment Protection Licence

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after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

Environment Protection Licence

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7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Special Conditions

E1 Financial assurance

- E1.1 A financial assurance in the form of an unconditional and irrevocable and on demand guarantee from a bank, building society or credit union operating in Australia as 'Authorised Deposit-taking Institutions' under the Banking Act 1959 of the Commonwealth of Australia and supervised by the Australian Prudential Regulatory Authority (APRA) must be provided to the EPA. The financial assurance must be in favour of the EPA in the amount of one hundred thousand dollars (\$100,000). The financial assurance is required to secure or guarantee funding for works or programs required by or under this licence .
- E1.2 The financial assurance must contain a term that provides that any money claimed can be paid to the EPA or, at the written direction of the EPA, to any other person.
- E1.3 The financial assurance must be maintained during the operation of the facility and thereafter until such time as the EPA is satisfied the premises is environmentally secure.
- E1.4 The financial assurance must be replenished by the full amount claimed or realised if the EPA has claimed on or realised the financial assurance or any part of it to undertake a work or program required to be carried out by the licence which has not been undertaken by the licence holder.
- E1.5 The EPA may require an increase in the amount of the financial assurance at any time as a result of reassessment of the total likely costs and expenses of rehabilitation of the premises.
- E1.6 The licensee must provide to the EPA the original counterpart guarantee within five working days of the issue of:
 - a) the financial assurance required by condition E1.1 and
 - b) the adjusted financial assurance as required by condition E1.5 and E1.6
- E1.7 The EPA may claim on a financial assurance under s303 of the POEO Act if a licensee fails to carry out any work or program required to comply with the conditions of this licence.

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E2 Environmental Obligations of Licensee (Workers and Programs)

- E2.1** While the licensee's premises are being used for the purpose to which the licence relates, the licensee must:
- a) Clean up any spill, leak or other discharge of any waste(s) or other material(s) as soon as practicable after it becomes known to the licensee or to one of the licensee's employees or agents.
 - b) In the event(s) that any liquid and non-liquid waste(s) must be removed and lawfully disposed of as soon as practicable or in accordance with any direction given by the EPA.
- E2.2** In the event of an earthquake, storm, fire, flood or any other event where it is reasonable to suspect that a pollution incident has occurred, is occurring or is likely to occur, the licensee (whether or not the premises continue to be used for the purposes to which the licence relates) must:
- a) Make all efforts to contain all firewater on the licensee's premises;
 - b) Make all efforts to control air pollution from the licensee's premises;
 - c) Make all efforts to contain any discharge, spill or run-off from the licensee's premises;
 - d) Make all efforts to prevent flood water entering the licensee's premises;
 - e) Remediate and rehabilitate any exposed areas of soil and/or waste;
 - f) Lawfully dispose of all liquid and solid waste(s) stored on the premises that is not already securely disposed of;
 - g) At the request of the EPA monitor groundwater beneath the licensee's premises and its potential to migrate from the licensee's premises;
 - h) At the request of the EPA monitor surface water leaving the licensee's premises and
 - i) Ensure the licensee's premises is secure.
- E2.3** After the licensee's premises cease to be used for the purpose to which the licence relates or in the event that the licensee ceases to carry out the activity that is the subject of this licence, that licensee must:
- a) Remove and lawfully dispose of all liquid and non-liquid waste stored on the licensee's premises that is not already securely disposed of;
 - b) rehabilitate the site, including conducting an assessment of and if required remediation of any site contamination.

Environment Protection Licence

Licence - 20638



Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

Environment Protection Licence



Licence - 20638

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Ms Cate Woods

Environment Protection Authority

(By Delegation)

Date of this edition: 25-November-2015

End Notes
1 Licence transferred through application 1537424 approved on 29-Jan-2016 , which came into effect on 01-Feb-2016

Environment Protection Licence

Licence - 12125

Licence Details

Number:	12125
Anniversary Date:	08-June

Licensee

LIPA PHARMACEUTICALS LTD

PO BOX 5981

MINTO NSW 2566

Premises

LIPA PHARMACEUTICALS LTD

21 REAGHS FARM ROAD

MINTO NSW 2566

Scheduled Activity

Chemical Production

Fee Based Activity

Scale

Chemical production waste generation	> 5-100 T generated or stored
Pharmaceutical and veterinary products production	> 2000-5000 T produced

Region

Metropolitan - Illawarra

Level 3, NSW Govt Offices, 84 Crown Street

WOLLONGONG NSW 2500

Phone: (02) 4224 4100

Fax: (02) 4224 4110

PO Box 513 WOLLONGONG EAST

NSW 2520

Environment Protection Licence



Licence - 12125

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Environment Protection Licence

Licence - 12125



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence



Licence - 12125

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

LIPA PHARMACEUTICALS LTD
PO BOX 5981
MINTO NSW 2566

subject to the conditions which follow.

Environment Protection Licence

Licence - 12125



1 Administrative Conditions

A1 What the licence authorises and regulates

- A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Chemical Production	Chemical production waste generation	> 5 - 100 T generated or stored
Chemical Production	Pharmaceutical and veterinary products production	> 2000 - 5000 T produced

A2 Premises or plant to which this licence applies

- A2.1 The licence applies to the following premises:

Premises Details
LIPA PHARMACEUTICALS LTD
21 REAGHS FARM ROAD
MINTO
NSW 2566
LOT 202 DP 813362

A3 Information supplied to the EPA

- A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Limit Conditions

L1 Pollution of waters

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Licence - 12125



- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

- L2.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2005.	As specified in each particular resource recovery exemption	NA
NA	Waste	Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time.	-	NA

- L2.2 The quantity of hazardous and/or restricted solid and/or liquid waste stored on the premises must not exceed 10 tonnes at any one time.

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the Protection of the Environment Operations (Waste) Regulation 2005.

L3 Potentially offensive odour

- L3.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

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L4 Other limit conditions

L4.1 Polychlorinated Biphenyls (PCBs)

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the "Chemical Control Order in Relation to Materials and Wastes Containing Polychlorinated Biphenyl, 1997".

L4.2 Asbestos

Note: The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the Protection of the Environment Operations (Waste) Regulation 2005.

3 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Emergency response

O4.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency

Environment Protection Licence

Licence - 12125



response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

O5 Processes and management

- O5.1 The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the DECCW Waste Classification Guidelines as in force from time to time.
- O5.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.

4 Monitoring and Recording Conditions

M1 Monitoring records

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
 - a) in a legible form, or in a form that can readily be reduced to a legible form;
 - b) kept for at least 4 years after the monitoring or event to which they relate took place; and
 - c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
 - a) the date(s) on which the sample was taken;
 - b) the time(s) at which the sample was collected;
 - c) the point at which the sample was taken; and
 - d) the name of the person who collected the sample.

M2 Recording of pollution complaints

- M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M2.2 The record must include details of the following:
 - a) the date and time of the complaint;
 - b) the method by which the complaint was made;
 - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - d) the nature of the complaint;
 - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - f) if no action was taken by the licensee, the reasons why no action was taken.
- M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

Environment Protection Licence

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M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

- M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M3.3 The preceding two conditions do not apply until 3 months after:
- a) the date of the issue of this licence or
 - b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

5 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a) a Statement of Compliance; and
 - b) a Monitoring and Complaints Summary.
- At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- R1.3 Where this licence is transferred from the licensee to a new licensee:
- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
 - b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is

Environment Protection Licence

Licence - 12125



given; or

b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').
- R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.
- R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- a) the licence holder; or
 - b) by a person approved in writing by the EPA to sign on behalf of the licence holder.
- R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;

Environment Protection Licence

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- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

6 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G2 Other general conditions

G2.1 Completed Pollution Studies and Reduction Programs (PRPs)

PRP	Description	Completed Date
PRP1 - Storage and handling waste skip bins	To report on options for a dedicated area for the storage of waste skip bins on the premises. The outcome of this PRP will to improve the effectiveness of existing pollution containment and stormwater system to ensure that no contaminants are discharged offsite from skip bins.	23-December-2004
PRP2 - Construction of storage area for waste skip bins.	To implement recommendations from PRP 1. The outcome of this PRP will to improve the effectiveness of existing pollution containment and stormwater system to ensure that no contaminants are discharged offsite from skip bins.	29-November-2005

Environment Protection Licence

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Dictionary

General Dictionary

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AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
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CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
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composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
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grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

Environment Protection Licence

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Les Johnston

Environment Protection Authority

(By Delegation)

Date of this edition: 08-June-2004

End Notes

- 1 Licence varied by notice 1054757, issued on 22-Dec-2005, which came into effect on 16-Jan-2006.
- 2 Licence varied by notice 1074287, issued on 15-Feb-2008, which came into effect on 15-Feb-2008.
- 3 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 4 Licence varied by correction to DECCW Region data record, issued on 13-Jul-2010, which came into effect on 13-Jul-2010.
- 5 Licence varied by notice 1119538, issued on 29-Sep-2010, which came into effect on 29-Sep-2010.
- 6 Licence varied by correction to scheduled activity name, issued on 22-Dec-2010, which came into effect on 22-Dec-2010.
- 7 Licence varied by notice 1518538 issued on 29-Nov-2013

Environment Protection Licence

Licence - 3138

Department of **Environment & Climate Change** NSW

Licence Details

Number:	3138
Anniversary Date:	15-March
Review Due Date:	21-Apr-2011

Licensee

FULTON HOGAN PTY LTD
PO BOX 682
CAMPBELLTOWN NSW 2560

Licence Type

Premises

Premises

FRH GROUP PTY LTD
117 AIRDS ROAD
MINTO NSW 2566

Scheduled Activity

Bitumen Pre-mix or Hot-mix Industries

Fee Based Activity

Bitumen Pre-Mix or Hot-Mix Production (8)

Scale

> 100000 - T produced

Region

Metropolitan
Level 3, NSW Govt Offices, 84 Crown Street
WOLLONGONG NSW 2500
Phone: 02 4224 4100
Fax: 02 4224 4110

PO Box 513 WOLLONGONG EAST
NSW 2520

Environment Protection Licence

Licence - 3138

Department of Environment & Climate Change NSW



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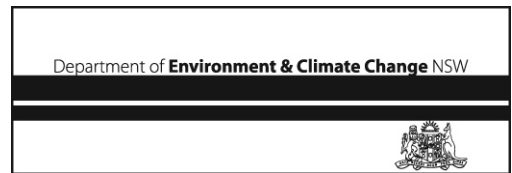
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Environment Protection Licence

Licence - 3138



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees.

Environment Protection Licence

Licence - 3138

Department of Environment & Climate Change NSW



The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

FULTON HOGAN PTY LTD
PO BOX 682
CAMPBELLTOWN NSW 2560

subject to the conditions which follow.

1 Administrative conditions

A1 What the licence authorises and regulates

A1.1 Not applicable.

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Environment Protection Licence

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Department of **Environment & Climate Change** NSW

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity

Bitumen Pre-mix or Hot-mix Industries

Fee Based Activity

Scale

Bitumen Pre-Mix or Hot-Mix Production (8)

> 100000 - T produced

A1.3 Not applicable.

Environment Protection Licence

Licence - 3138



A2 Premises to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
FRH GROUP PTY LTD
117 AIRDS ROAD
MINTO
NSW
2566
LOT 41 DP617022

A3 Other activities

A3.1 Not applicable.

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- (a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- (b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to air and water and applications to land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Environment Protection Licence

Licence - 3138

Department of **Environment & Climate Change** NSW

Air

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
1		Discharge to air	Exhaust stack from the baghouse labelled as 'Pt.1' on map titled 'Plan showing Lot 41 DP617022 Aird Road Minto' submitted to EPA 15/04/02.

P1.2 Not applicable.

P1.3 Not applicable.

3 Limit conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Load limits

L2.1 Not applicable.

L2.2 Not applicable.

L3 Concentration limits

L3.1 Not applicable.

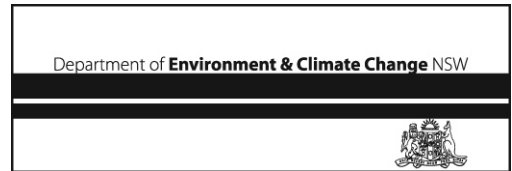
L3.2 Not applicable.

L3.3 Not applicable.

L4 Volume and mass limits

Environment Protection Licence

Licence - 3138



L4.1 Not applicable.

L5 Waste

L5.1 Not applicable.

L6 Noise Limits

L6.1 Not applicable.

4 Operating conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
(a) must be maintained in a proper and efficient condition; and
(b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

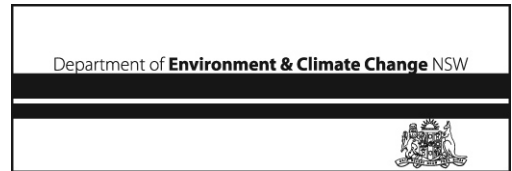
5 Monitoring and recording conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol

Environment Protection Licence

Licence - 3138



must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- (a) in a legible form, or in a form that can readily be reduced to a legible form;
- (b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- (c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- (a) the date(s) on which the sample was taken;
- (b) the time(s) at which the sample was collected;
- (c) the point at which the sample was taken; and
- (d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 Not applicable.

M3 Testing methods - concentration limits

M3.1 Not applicable.

M3.2 Not applicable.

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:

- (a) the date and time of the complaint;
- (b) the method by which the complaint was made;
- (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- (d) the nature of the complaint;
- (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- (f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

Environment Protection Licence

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M5 Telephone complaints line

- M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M5.3 Conditions M5.1 and M5.2 do not apply until 3 months after:
- (a) the date of the issue of this licence or
 - (b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

M6 Requirement to monitor volume or mass

- M6.1 Not applicable.

6 Reporting conditions

R1 Annual return documents

What documents must an Annual Return contain?

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- (a) a Statement of Compliance; and
 - (b) a Monitoring and Complaints Summary.
- A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

Period covered by Annual Return

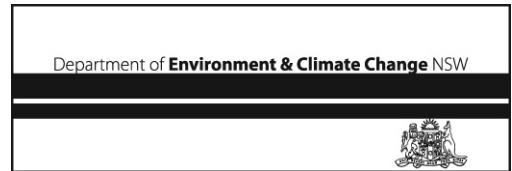
- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- R1.3 Where this licence is transferred from the licensee to a new licensee:

Environment Protection Licence

Licence - 3138



- (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4** Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
 - (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

Deadline for Annual Return

- R1.5** The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

Notification where actual load can not be calculated

- R1.6** Not applicable.

Licensee must retain copy of Annual Return

- R1.7** The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary

- R1.8** Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
- (a) the licence holder; or
 - (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.
- R1.9** A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

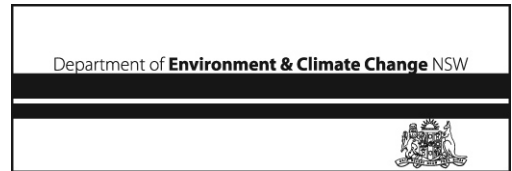
R2 Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

- R2.1** Notifications must be made by telephoning the EPA's Pollution Line service on 131 555.

Environment Protection Licence

Licence - 3138



- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- (a) where this licence applies to premises, an event has occurred at the premises; or
 - (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- (a) the cause, time and duration of the event;
 - (b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - (g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

General conditions

G1 Copy of licence kept at the premises

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

Environment Protection Licence

Licence - 3138



- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Pollution studies and reduction programs

- U1.1 Not applicable.

Special conditions

- E1.1 Not applicable.

Dictionary

General Dictionary

In this licence, unless the contrary is indicated, the terms below have the following meanings:

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998

Environment Protection Licence



Licence - 3138

assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 1998.
flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
industrial waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
inert waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.

Environment Protection Licence



Licence - 3138

plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
reprocessing of waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
treatment of waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste code	Means the waste codes listed in Appendix 5 of the EPA document A Guide to Licensing Part B.
waste type	Means Group A, Group B, Group C, inert, solid, industrial or hazardous waste

Mr Tim Gilbert

Environment Protection Authority

Environment Protection Licence

Licence - 3138

(By Delegation)

Date of this edition - 19-Feb-2007

Department of **Environment & Climate Change** NSW



End Notes

1	Licence varied by notice 1016086, issued on 12-Jun-2003, which came into effect on 07-Jul-2003.
2	Licence transferred through application 143644, approved on 18-Aug-2005, which came into effect on 01-Jul-2005.
3	Licence varied by correction to the Suburb record, issued on 19-Feb-2007, which came into effect on 19-Feb-2007.

Environment Protection Licence

Licence - 20062



Licence Details	
Number:	20062
Anniversary Date:	08-May

Licensee
JOE WHITE MALTINGS PTY LTD
11 STONNY BATTER ROAD
MINTO NSW 2566

Premises
JOE WHITE MALTINGS PTY LTD
11 STONNY BATTER ROAD
MINTO NSW 2566

Scheduled Activity
Agricultural Processing

Fee Based Activity	Scale
General agricultural processing	> 100000-250000 T processed

Region
Metropolitan - Illawarra
Level 3, NSW Govt Offices, 84 Crown Street
WOLLONGONG NSW 2500
Phone: (02) 4224 4100
Fax: (02) 4224 4110
PO Box 513 WOLLONGONG EAST
NSW 2520

Environment Protection Licence

Licence - 20062



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Environment Protection Licence

Licence - 20062



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Environment Protection Licence

Licence - 20062



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

Licence - 20062



The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

JOE WHITE MALTINGS PTY LTD
11 STONNY BATTER ROAD
MINTO NSW 2566

subject to the conditions which follow.

Environment Protection Licence

Licence - 20062



1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Agricultural Processing	General agricultural processing	> 100000 - 250000 T processed

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
JOE WHITE MALTINGS PTY LTD
11 STONNY BATTER ROAD
MINTO
NSW 2566
LOT 21 DP 1137825

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from

Environment Protection Licence

Licence - 20062



the point.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1		Discharge to air	Kiln exhausts. Listed as map reference 22 Kiln on Discharge Points - Grid Coordinates and marked as point 22 on the associated drawing attached to the licence application held on EPA file LIC11/731.
2		Discharge to air	Dust filters-barley & malt bi-products. Listed as map references 1, 2, 3, and 4 on Discharge Points - Grid Coordinates and marked as points 1, 2, 3, and 4 on the associated drawing attached to the licence application held on EPA file LIC11/731
3		Discharge to air	Dust collector listed as map reference 5 on Discharge Points - Grid Coordinates and marked as point 5 on the associated drawing attached to the licence application held on EPA file LIC11/731.
4		Discharge to air	Filter discharge fan Malt Cleaning listed as map reference 6 on Discharge Points - Grid Coordinates and marked as point 6 on the associated drawing attached to the licence application held on EPA file LIC11/731.
5		Discharge to air	Filter discharge fan Barley Cleaning listed as map reference 7 on Discharge Points - Grid Coordinates and marked as point 7 on the associated drawing attached to the licence application held on EPA file LIC11/731.
6		Discharge to air	Dust filters Malt silos 1 to 4. Listed as map references 8, 9, 10 and 11 on Discharge Points - Grid Coordinates and marked as points 8, 9, 10, and 11 on the associated drawing attached to the licence application held on EPA file LIC11/731
7		Discharge to air	Dust filters Packing Silos 1 to 5. Listed as map references 12, 13, 14, 15 and 16 on Discharge Points - Grid Coordinates and marked as points 12, 13, 14, 15 and 16 on the associated drawing attached to the licence application held on EPA file LIC11/731
8		Discharge to air	Filter discharge fan-process and packing. Listed as map references 17 on Discharge Points - Grid Coordinates and marked as points 17 on the associated drawing attached to the licence application held on EPA file LIC11/731.
9		Discharge to air	Filter discharge fan - malt cleaning. Listed as map references 18 on Discharge Points - Grid Coordinates and marked as points 18 on the associated drawing attached to the licence application held on EPA file LIC11/731.

Environment Protection Licence

Licence - 20062



3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Noise limits

L2.1 Noise generated at the premises must not exceed the noise limits in the table below.

Locality and Location	Day - LAeq (15 minute)	Evening - LAeq (15 minute)	Night - LAeq (15 minute)	Night - LA1 (1 minute)
Nearest Residence (9 Borthwick Street, Minto)	45	40	40	50

Note: For the purpose of the condition above;

- a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- b) Evening is defined as the period 6pm to 10pm.
- c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

L2.2 The noise emission limits identified in this licence apply under all meteorological conditions except:

- a) during rain and wind speeds (at 10m height) greater than 3m/s; and
- b) under "non-significant weather conditions".

L3 Potentially offensive odour

L3.1 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

L3.2 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:

- a) the processing, handling, movement and storage of materials and substances used to

Environment Protection Licence

Licence - 20062



carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Emergency response

O4.1 The licensee must maintain, and implement as necessary, a current emergency response plan for the premises. The licensee must keep the emergency response plan on the premises at all times. The emergency response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. If a current emergency response plan does not exist at the date on which this condition is attached to the licence, the licensee must develop an emergency response plan within three months of that date.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

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M2 Recording of pollution complaints

- M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M2.2 The record must include details of the following:
- a) the date and time of the complaint;
 - b) the method by which the complaint was made;
 - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - d) the nature of the complaint;
 - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - f) if no action was taken by the licensee, the reasons why no action was taken.
- M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

- M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M3.3 The preceding two conditions do not apply until three months after:
- a) the date of the issue of this licence or
 - b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

6 Reporting Conditions

R1 Annual return documents

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a) a Statement of Compliance; and
 - b) a Monitoring and Complaints Summary.
- At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

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R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the

Environment Protection Licence

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date on which the incident occurred.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Special Conditions

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E1 Independent Air Quality Audit

- E1.1 Within 6 months of the commencement of operations on site, the Licensee shall commission and pay the full cost of an Independent Air Quality Report of the project. The audit must be conducted by a suitably qualified, experienced and independent expert. During the audit, the expert must:
- (a) consult with the EPA and the Department of Planning and Infrastructure;
 - (b) measure all key odour sources and audit the effectiveness of the odour controls on site;
 - (c) audit the air emissions of the project criteria, and in particular the nitrogen oxide emissions;
 - (d) determine whether the project is complying with odour control, Best Available Control Technology for nitrogen oxide emissions and dust controls.
 - (e) recommend measures to minimise the odour or air emissions of the project.

A copy of the report must be submitted to the EPA within 2 weeks of the audit being completed.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr William Dove

Environment Protection Authority

(By Delegation)

Date of this edition: 08-May-2012

End Notes

MINTO	Shell Coles Express Service Station	73 Pembroke STREET	Service Station	Regulation under CLM Act not required	-34.02316454	150.8503118
MINTO	Land adjacent to Former Shell depot	Airds Road and Essex STREET	Other Petroleum	Regulation under CLM Act not required	-34.02110921	150.8414029
MINTO	Former Endeavour Energy's Depot	Pembroke ROAD	Unclassified	Regulation under CLM Act not required	-34.0331168	150.8464722



APPENDIX H

Dangerous Goods Search

[illegible]

		PrixCar		R.A.DONNAN CONSULTING BUILDINGS, TRANSPORT & WAREHOUSE PLANNING & DESIGN. 17 DART ROAD NORTHMEY VICTORIA 3145 TELEPHONE 33 848 333 TELEFAX 33 848 333		SCALE 1:2500 AT A3 PLOT. CAR STORAGE & PREPARATION FACILITY LOTS 3 & 4 CULVERSTON RD., MINTO SITE LAYOUT	
No. Date Rev 001		To Date Amount To Date Amount To 15/04/99 15/04/99		15/04/99 15/04/99		15/04/99 15/04/99	

CONTACT FOR NOTIFICATION INQUIRIES

Title: Mr / Miss / Ms / Mrs / Other (please specify) _____ Family name Bigeni
Given name Annette Other names _____
Business phone 02 4640 5256 Business fax number 02 9820 8215
Business email address annette.bigeni@prixcar.com.au

Previous Licence Number or Acknowledgement Number (if known)

35/ 0382743

Previous Occupier (if known)

Site on which dangerous goods are to be kept

Number Street

2 COLVERSTON ROAD

Suburb/Town/Locality

MINTO

Postcode

2566

Nearest cross Street

AIRDS RD

Lot and DP if no street number

AS ABOVE

Is the site staffed? If yes state number of employees

100

Site staffing: Hours per day

24

Days per week

7

Site Emergency Contact

Phone number

(0) 423 228854

Name

Annette Bigeni

Nature of site (eg petrol station, warehouse etc)

AUTOMOTIVE STORAGE FACILITY

Nature of primary business activity

AUTOMOTIVE REPAIRER & SERVICES

ABN Number (if any)

42007062 505

Website details (if any)

PRIXCAR SERVICES.COM.AU

What is the ANSZIC code most applicable to your business? (see guide for list of codes and further information)

Code

AU26709

Description

AUTOMOTIVE STORAGE

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

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

NOTIFICATION OF DANGEROUS GOODS ON PREMISES FORM

FDG01

List the dangerous goods that will be stored and/or processed on these premises (refer to Guide GDG01). Copy this page and attach additional sheets if there is insufficient space.

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)
1	ROOFED STORAGE	3.	8000 L

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg
1203	PETROL	3.		UNLEADED PETROL		4000	L
0001	DIESEL	3.		DIESEL		4000	L

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

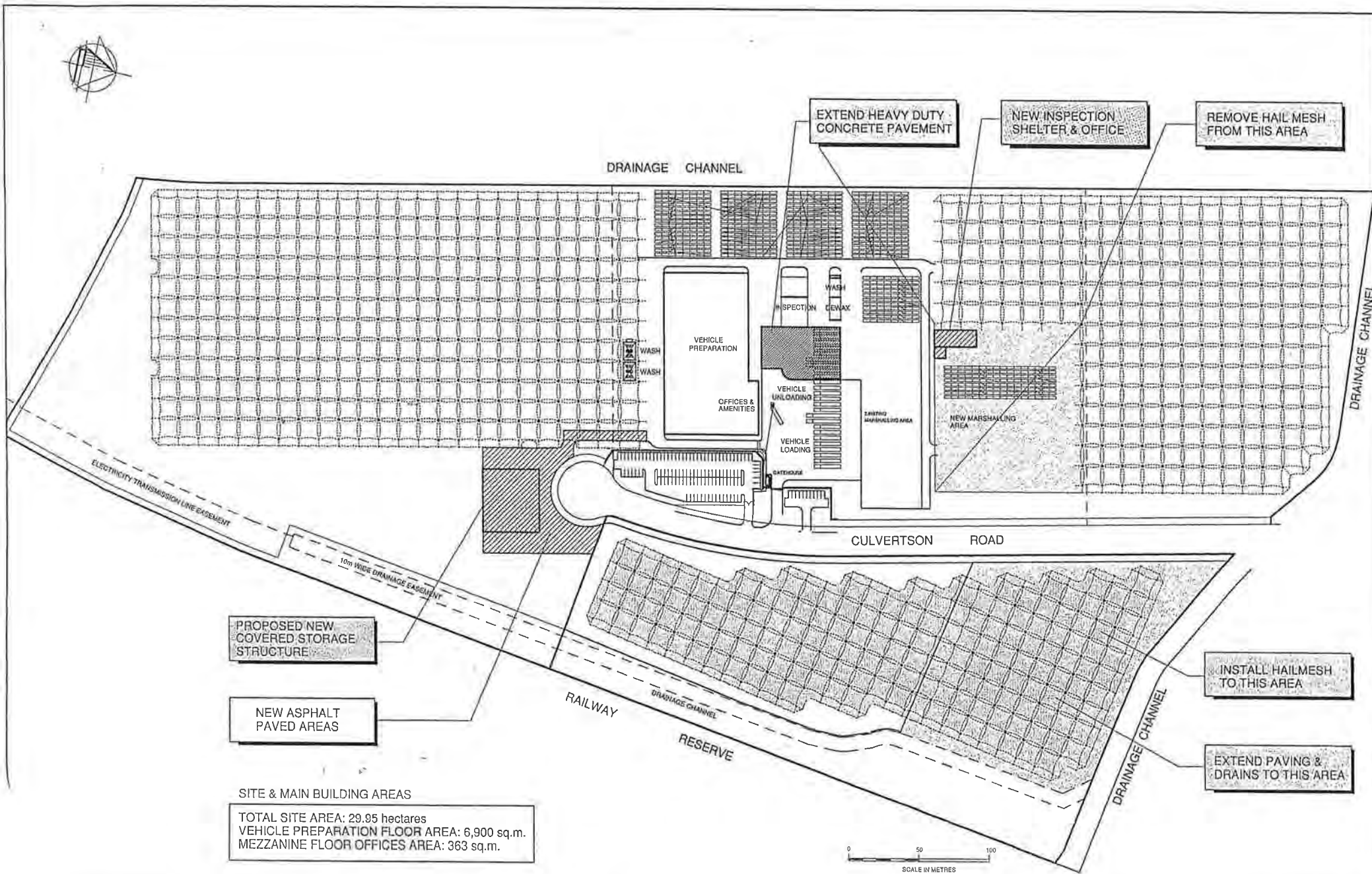
UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg

Depot No	Type of storage location or process	Class	Maximum Storage Capacity (L, kg)

UN Number	Proper Shipping Name	Class	PG (I, II, III)	Product or Common Name	HazChem Code	Typical Qty	Unit eg L, kg



SITE & MAIN BUILDING AREAS

TOTAL SITE AREA: 29.95 hectares
 VEHICLE PREPARATION FLOOR AREA: 6,900 sq.m.
 MEZZANINE FLOOR OFFICES AREA: 363 sq.m.

PrixCar



Radcliff Pty Ltd
 Trading as:
Donnan Cons
 Commercial & Industrial Bldg.

1034 Heidelberg Road
 (STANHOPE VIC 3078)
 Telephone: (03) 9493 0599
 Facsimile: (03) 9499 3955
 Email: info@donnan.com.au

Rev. 1/05

CAR STORAGE FACILITY
 CULVERSTON RD., MINTO

PROPOSED ALTERATIONS-OPTION 3

Issue: FEBRUARY 2005

Drawn: RAD

Checked: AS NOTED

Rev: /

963

P3



30x
782

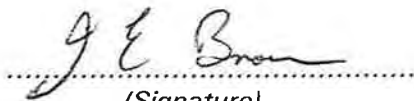


WorkCover New South Wales, 400 Kent Street, Sydney 2000. Tel: 9370 5000 Fax: 9370 5999 ALL MAIL TO G.P.O. BOX 5364 SYDNEY 2001
Licence No. 35/032743

APPLICATION FOR RENEWAL OF LICENCE TO KEEP DANGEROUS GOODS

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

DECLARATION: Please renew licence number 35/032743 to 13/07/2001. I confirm that all the licence details shown below are correct (amend if necessary).


(Signature)
for: PRIXCAR SERVICES P/L

J E Brown
(Please print name)

16/6/00
(Date signed)

THIS SIGNED DECLARATION SHOULD BE RETURNED TO: (please do not fax)

WorkCover New South Wales
Dangerous Goods Licensing Section
GPO BOX 5364
SYDNEY 2001

Enquiries: ph (02) 9370 5187
fax (02) 9370 6104

Details of licence on 9 June 2000

Licence Number 35/032743 Expiry Date 13/07/2000
Licensee PRIXCAR SERVICES P/L ACN 007 063 505

Postal Address: BOX 5999 P O MINTO NSW 2566

Licensee Contact JOHN BROWN Ph. 9820 5100 Fax. 9820 5215

Premises Licensed to Keep Dangerous Goods
PRIXCAR SERVICES P/L
2 CULVERSTON RD MINTO 2566

Nature of Site AUTOMOTIVE REPAIR AND SERVICES N.E.C.

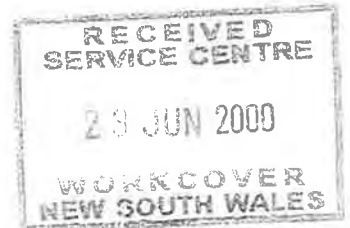
Major Supplier of Dangerous Goods UNKNOWN OR OTHER

Emergency Contact for this Site JOHN BROWN Ph. 018 310845

Site staffing 24 HRS 7 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	ROOFED STORE	Class 3	15000 L
		UN 00C1 DIESEL	4000 L
		UN 1203 PETROL	4000 L
		UN 1863 FUEL, AVIATION, TURBINE ENGINE	4000 L



Application for Licence to Keep Dangerous Goods



Application for ☒ new licence ☐ amendment ☐ transfer ☐ renewal of expired licence

Exp date 14/7/98

Conditional
Applicant lic issued on conditional
that info on sheet submitted

PART A - Applicant and site information

1 Name of applicant

PRIXCAR SERVICES PTY LTD

ACN 29/8/97 -> R/S

007 063 505

2 Postal address of applicant

P.O. BOX 5999

Suburb/Town

MINTO B.C.

Postcode

2566

3 Trading name or site occupier's name

PRIXCAR SERVICES PTY LTD

4 Contact for licence inquiries

Phone

Fax

Name

02 9820 5100

02 9820 5215

STUART CARLAW

5 Previous licence number (if known)

35/ 0277 49 032743

6 Previous occupier (if known)

NIL. (NEW SITE)

7 Site to be licensed

No

Street

2

CULVERSTON

Rd

Suburb / Town

MINTO

Postcode

2566

8 Main business of site

MOTOR VEHICLE STORAGE & REPAIRS 5329

9 Site staffing: Hours per day

24

Days per week

7

10 Emergency contact

Phone

Name

018204398

STUART CARLAW

11 Major supplier of dangerous goods

METROPOLITAN FUEL SUPPLIES

12 If a new site or for amendments to depots

Plan stamped by:

Name of Accredited Consultant

Date stamped

SAM KHOURY

3.2.97

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant

Date

10/7/97

Please send your application, marked **CONFIDENTIAL**, to:

**Dangerous Goods Licensing, Level 3, Locked Bag 10, Clarence Street,
SYDNEY NSW 2000**

IRRIGATION. DISH DRAIN.

ELECTRIFIED BOUNDARY FENCE 2.5m.

OPEN VEHICLE STORAGE

DEPOT 1

20m

15m

10m

FIRE HOSE

ROLLER SHUTTER DOORS

FIRE HYDRANT

SURVEY BAYS

DEWAY BAYS

POWER ISOLATION

Note: Condensed scale to aird Rd.

MESHED VEHICLE STORAGE

VEHICLE ARRIVAL & PROCESSING AREA

VEHICLE TRANSPORT AREA

FACTORY

ENTRANCE

OFFICE OVER

FIRE HYDRANT

STAFF CAR PARK

GATE HOUSE

SITE REGISTAR

SLIDING MAIN GATE

VISITORS CAR PARK.

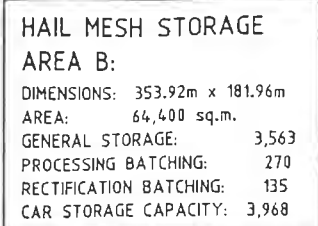
ELECTRIFIED BOUNDARY FENCE 2.5m

GULVERSTON RD

AIRD 20

Site Sketch

~~✓~~ Vacant land



OPEN CAR STORAGE
AREA 1:
TOTAL STORAGE CAPACITY: 512

WORKSHOP & OFFICE BUILDING

WORKSHOP: 60m x 114m
AREA: 6,900 sq.m.
OFFICE: 33m x 11m (mezzanine)
AREA: 363 sq.m.

**FUTURE HARD COVER
STORAGE BUILDING**
DIMENSIONS: 45m x 75m
AREA: 3,375 sq.m.
CAR STORAGE CAPACITY: 215

HAIL MESH STORAGE
AREA A:
DIMENSIONS: 296.60m x 210.62m
AREA: 55,550 sq.m.
GENERAL CAR STORAGE : 2,509
LOAD-OUT CAR STORAGE: 714
TOTAL STORAGE CAPACITY: 3,223

DRAINAGE CHANNEL

CUI VERTSON ROAD

OPEN CAR STORAGE
AREA 2: (FUTURE STAGE 2)
CAR STORAGE CAPACITY: 2,209

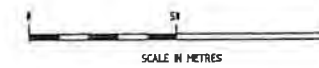
TOTAL CAR CAPACITY	
STAGE 1:	
HAIL MESH:	7,191
OPEN STORAGE:	512
LOAD-IN STORAGE:	262
LOAD-OUT MARSHALL:	80
PROCESS & RECTIF'N:	151
TOTAL:	8,196

TOTAL CAR CAPACITY
STAGES 1&2: 10,405

*This plan conforms with the
Dangerous Goods Act 1975
and Australian Standards(s)*

AS 1940-1993
signed for Sam Khoury
Consulting Engineer
Date 3/2/97

SITE AREA:
 LOTS 4,5 6 & 7
 AREA: 23.316 Ha
 (57.6 ACRES)



F	21-8-96	EMPLOYEE CARPARK AREA FENCING REVISED	RAD						
E	7-8-96	HAIRPESH AREA C CHANGED TO A, AREA REVISED TO 55,559 SQ.M.	RAD						
D	17-7-96	WORKSHOP AREA & LOAD-OUT/LOAD-IN AREAS ERRORR IMAGED	RAD						
C	11-7-96	WORKSHOP AREA AMENDED, LOAD-OUT/LOAD-IN AREAS REVISED	RAD						
B	7-7-96	WORKSHOP LAYOUT REVISED, DEWAX/SURVEY WASH RELOCATED, GENERAL REVISIONS	RAD						
A	3-7-96	WORKSHOP SIZE AMENDED, DEWAX/SURVEY WASH REVISED, LAYOUT REVISED	RAD						
Amendment			By	Date	Amount	To	Date	Amount	To
No.	Date	Revision	ISSUE			ISSUE			

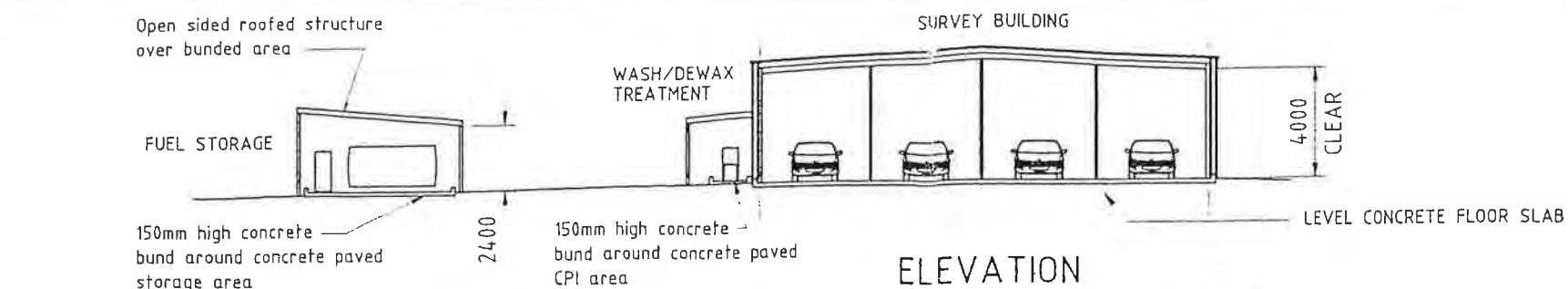
PrixCar

R.A.DONNAN CONSULTING
BUILDING, TRANSPORT & WAREHOUSE PLANNING & DESIGN
1/2 DAVEY ROAD MONTMORENCY VICTORIA 3996
TELEPHONE 838 9419 5757
FACSIMILE 838 9435 9510

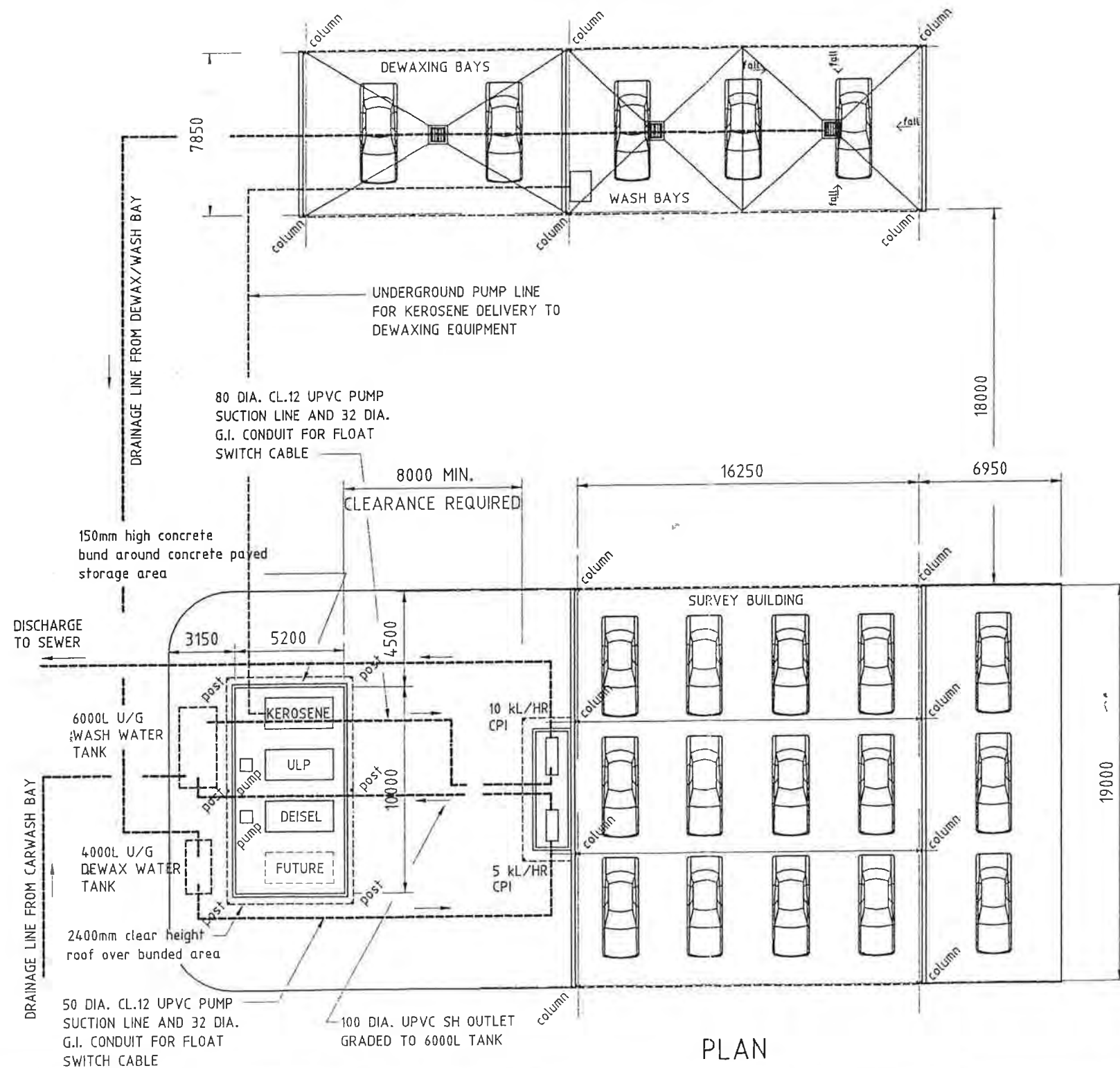
PROPOSED CAR STORAGE FACILITY
LOTS 4,5,6&7 CULVERTSON RD., MINTO

CONCEPTUAL SITE LAYOUT

JUNE 1996		DT-272					
Driver	RAD						
Checkdate							
Serial	AS NOTED						
Day	<table border="1"> <tr> <td>A</td> <td>M</td> <td>E</td> <td>T</td> <td>F</td> </tr> </table>	A	M	E	T	F	Drawing Number P2
A	M	E	T	F			



ELEVATION



PLAN

This plan conforms with the
Dangerous Goods Act 1975
and Australian Standards(s)
AS 1940 1993
signed for Sam Khoury
Consulting Engineer
Date 3/2/97

No.	Date	Amendment	By	Date	Amount	To	Date	Amount	To
		Revision			Issue			Issue	

PrixCar

R.A.DONNAN CONSULTING
BUILDING, TRANSPORT & WAREHOUSE PLANNING & DESIGN.
1/1 DAVEY ROAD HENTHORN VICTORIA 3994
TELEPHONE 09 1414 1427
FACSIMILE 09 1415 1434

Job Title
PROPOSED CAR STORAGE FACILITY
LOTS 4,5,6&7 CULVERTSON RD., MINTO
Drawing Title
PROPOSED FUEL STORAGE AREA LAYOUT

Date
JANUARY 1997
Drawn
RAD
Checked
Scale
1:250
Rev
DT-272
Drawing Number
P10



APPENDIX I

Section 149



Issue Date: 10 February 2016
Application Number: 201600386
Receipt Number: 3190796

Golder Associates
124 Pacific Highway
ST LEONARDS NSW 2065

Your Reference: 1648232

PLANNING CERTIFICATE UNDER SECTION 149 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Section 149 Planning Certificate phone enquiries: (02) 4645 4560.

Property Address: Lot 400 Culverston Road
MINTO NSW 2566

Property Description: Lot 400 DP 875711

As at the date of issue, the following matters apply to the land subject of this certificate:

INFORMATION PROVIDED UNDER SECTION 149(2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (the Act)

PART 1 – Names of relevant planning instruments and DCPs

Planning Instrument: Campbelltown (Urban Area) LEP 2002

Effect: 4(a) - General Industry Zone

Planning Instrument: Campbelltown LEP 2015

Effect: IN1 General Industrial

Note: *Campbelltown Local Environmental Plan 2015 was published on the NSW legislation website on 11 December 2015. However, it does not commence until 3 months after this publication date.*

- (1) In addition to the environmental planning instrument(s) named above, the following planning instruments also apply to the carrying out of development on the land subject of this certificate:

Local environmental plans (LEPs) and deemed environmental planning instruments

Campbelltown LEP No.209 – Exempt Development

For further information about these local environmental plans and deemed environmental planning instruments, contact Council's Environmental Planning Section on (02) 4645 4601.

**PLANNING CERTIFICATE UNDER SECTION 149
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State environmental planning policies (SEPPs)

SEPP No.1 – Development Standards

SEPP No.21 – Caravan Parks

SEPP No.30 – Intensive Agriculture

SEPP No.33 – Hazardous and Offensive Development

SEPP No.44 – Koala Habitat Protection

SEPP No.50 – Canal Estate Development

SEPP No.55 – Remediation of Land

SEPP No.64 – Advertising and Signage

SEPP No.65 – Design Quality of Residential Flat Buildings

SEPP No.70 – Affordable Housing (Revised Schemes)

SEPP No.19 - Bushland in Urban Areas

SEPP No.32 - Urban Consolidation (Redevelopment of Urban Land)

SEPP (Building Sustainability Index: BASIX) 2004

SEPP (Major Development) 2005

SEPP (Mining, Petroleum Production and Extractive Industries) 2007

SEPP (Miscellaneous Consent Provisions) 2007

SEPP (Infrastructure) 2007

SEPP (Exempt and Complying Development Codes) 2008

SEPP (Affordable Rental Housing) 2009

SEPP (State and Regional Development) 2011

Greater Metropolitan REP No.2 - Georges River Catchment

For further information about these State environmental planning policies, contact the Department of Planning (www.planning.nsw.gov.au).

- (2) The following proposed environmental planning instruments, which are or have been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified Council that the making of the proposed instrument has been deferred indefinitely or has not been approved), apply to the carrying out of development on the land subject of this certificate:

Draft local environmental plans (LEPs)

None

For further information about these draft local environmental plans, contact Council's Environmental Planning Section on (02) 4645 4601.

Draft State environmental planning policies (SEPPs)

None

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

For further information about these draft State environmental planning policies, contact the Department of Planning (www.planning.nsw.gov.au).

- (3) The following development control plans (DCPs) apply to the carrying out of development on the land subject of this certificate:

DCP No.99 – Advertising Signs

Campbelltown (Sustainable City) DCP 2014 Volume 1

Campbelltown (Sustainable City) DCP 2014 Volume 3

For further information about these development control plans, contact Council's Environmental Planning Section on (02) 4645 4601. Please note that the names of any draft development control plans that apply to the land subject of this certificate, that have been placed on exhibiton by Council but have not yet come into effect, are provided as advice under section 149(5) of the Act.

PART 2 – Zoning and land use under relevant LEPs

- a) The following zone(s) apply to the land subject of this certificate:

4(a) - General Industry Zone

IN1 General Industrial

- b) The purposes for which the plan or instrument provides that development may be carried out without the need for development consent are detailed in the land use table for each zone. Reference should be made to either Attachment 1 to this certificate or the appropriate section of the attached copy of the plan or instrument.

In addition, SEPP (Exempt and Complying Development Codes) 2008 and Campbelltown LEP No.209 – Exempt Development allow certain types of development to be carried out as exempt development within the Campbelltown City local government area.

- c) The purposes for which the plan or instrument provides that development may not be carried out except with development consent are detailed in the land use table for each zone. Reference should be made to either Attachment 1 to this certificate or the appropriate section of the attached copy of the plan or instrument.

In addition, SEPP (Exempt and Complying Development Codes) 2008 allows certain types of development to be carried out as complying development within the Campbelltown City local government area after a complying development certificate has been obtained from Council or from an accredited certifier.

- d) The purposes for which the plan or instrument provides that development is prohibited are detailed in the land use table for each zone. Reference should be made to either Attachment 1 to this certificate or the appropriate section of the attached copy of the plan or instrument.

- e) Any development standards applying to the land subject of this certificate that fix minimum land dimensions for the erection of a dwelling-house and, if so, the minimum land dimensions so fixed are detailed in the relevant section of the plan or instrument. Reference should be made to either Attachment 2 to this certificate or the appropriate section(s) of the attached copy of the plan or instrument. In addition, certain Council development control plans may

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

impose minimum development standards for the creation of allotments and/or minimum site area and dimensions for the erection of a dwelling-house.

For further information about items a), b), c), d) and e) above, contact Council's Environmental Planning Section on (02) 4645 4601.

- f) The land subject of this certificate does not include or comprise critical habitat.
- g) The land subject of this certificate is not in a conservation area (however described).
- h) No item of environmental heritage (however described) is situated on the land subject of this certificate.

PART 2A – Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

None

PART 3 – Complying development

- (1) Complying development may be carried out on the land subject of this certificate under each of the following codes for complying development, to the extent shown, because of the provisions of clauses 1.17A(1)(c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008:

Rural Housing Code – on all of the land

General Development Code – on all of the land

Demolition Code – on all of the land

Commercial and Industrial (New Buildings and Additions) Code – on all of the land

Fire Safety Code – on all of the land

General Housing Code – on all of the land

Housing Alterations Code – on all of the land

Commercial and Industrial Alterations Code – on all of the land

Subdivisions Code – on all of the land

Please note that reference should also be made to the relevant parts of this policy for the general requirements for complying development and to the relevant codes for complying development which may also include provisions relating to zoning, lot size etc.

- (2) Complying development may not be carried out on the land subject of this certificate under each of the following codes for complying development, to the extent shown and for the reason(s) stated, because of the provisions of clauses 1.17A(1)(c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008:

Not applicable

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

PART 4 – Coastal protection

The land subject of this certificate is not affected by the operation of section 38 or 39 of the Coastal Protection Act 1979, but only to the extent that Council has been notified by the Department of Public Works.

PART 5 – Mine subsidence

The land subject of this certificate is not within a proclaimed Mine Subsidence District within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

PART 6 – Road widening and road realignment

The land subject of this certificate is not affected by any road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993, any environmental planning instrument or any resolution of Council.

PART 7 – Council and other public authority policies on hazard risk restrictions

- a) Council has adopted a policy with respect to all land within the Campbelltown City local government area with unusual site conditions. This policy restricts the development of land where extensive earthworks and/or filling has been carried out. Land, the development of which is restricted by this policy, has a restriction as to user placed on the title of the land stating the details of any restriction. Building lots can be affected by excessive land gradient, filling, reactive or dispersive soils, overland flow and/or mine subsidence. Buildings, structures or site works may require specific structural design to ensure proper building construction. Consequently, some applications may require the submission of structural design details and geotechnical reports. It is suggested that prior to lodging an application, enquiries be made to Council's Planning and Environment Division to ascertain any specific requirements.
- b) Council has adopted by resolution the certified Campbelltown LGA Bush Fire Prone Land Map. This map identifies bush fire prone land within the Campbelltown City local government area as defined in section 4(1) of the Act. Where the land subject of this certificate is identified as bush fire prone land, the document entitled "Planning for Bush Fire Protection" prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and dated December 2006 should be consulted with regards to possible restrictions on the development of the land because of the likelihood of bushfire.
- c) The land subject of this certificate is not affected by a policy adopted by Council or adopted by any other public authority and notified to Council for reference in a planning certificate that restricts the development of the land because of the likelihood of tidal inundation.
- d) The land subject of this certificate is not affected by a policy adopted by Council or adopted by any other public authority and notified to Council for reference in a planning certificate that restricts the development of the land because of the likelihood of acid sulphate soils.
- e) Council has adopted by resolution a policy on contaminated land which may restrict the development of the land subject of this certificate. This policy is implemented when zoning or land use changes are proposed on lands which have previously been used for certain purposes. Council records do not have sufficient information about previous use of this land to determine whether the land is contaminated. Consideration of Council's adopted policy and

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

the application of provisions under relevant State legislation is warranted.

PART 7A – Flood related development controls information

- (1) Development on all or part of the land subject of this certificate for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related controls.
- (2) Development on all or part of the land subject of this certificate for any other purpose is subject to flood related development controls.
- (3) Words and expressions in this clause have the same meanings as in the instrument set out in the Schedule to the Standard Instrument (Local Environmental Plans) Order 2006.

Please note that some additional information regarding flooding and flood related development controls may be provided as advice under section 149(5) of the Act.

PART 8 – Land reserved for acquisition

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

PART 9 – Contribution plans

The following contribution plan(s) apply to the land subject of this certificate:

Campbelltown City Council Section 94A Development Contributions Plan

For further information about these contribution plans, contact Council's Environmental Planning Section on (02) 4645 4196.

PART 9A – Biodiversity certified land

The land subject of this certificate is not biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995).

PART 10 – Biobanking agreement

The land subject of this certificate is not land to which a biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995 relates (but only in so far as Council has been notified of the existence of any such agreement by the Director-General of the Department of Environment, Climate Change and Water).

PART 11 – Bush fire prone land

None of the land subject of this certificate has been identified as bush fire prone land on the Campbelltown City Council - Bush Fire Prone Land Map that has been certified for the purposes of section 146(2) of the Act.

PART 12 – Property vegetation plans

No property vegetation plan applies to the land subject of this certificate as the whole of the Campbelltown City local government area is excluded from the operation of the Native Vegetation Act 2003.

PART 13 – Orders under Trees (Disputes Between Neighbours) Act 2006

No order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land subject of this certificate (but only to the extent that Council has been notified of any such orders).

PART 14 – Directions under Part 3A

No direction, in force under section 75P(2)(c1) of the Act, that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land subject of this certificate under Part 4 of the Act does not have effect, has been issued by the Minister.

PART 15 – Site compatibility certificates and conditions for seniors housing

- a) No current site compatibility certificate (seniors housing), of which Council is aware, exists in respect of proposed development on the land subject of this certificate.
- b) No conditions of consent to a development application, granted after 11 October 2007, of the kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed in respect of proposed development on the land subject of this certificate.

PART 16 – Site compatibility certificates for infrastructure

No valid site compatibility certificate (infrastructure), of which Council is aware, exists in respect of proposed development on the land subject of this certificate.

PART 17 – Site compatibility certificates and conditions for affordable rental housing

- (1) No current site compatibility certificate (affordable rental housing), of which Council is aware, exists in respect of proposed development on the land subject of this certificate.
- (2) No conditions of consent to a development application of the kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed in respect of proposed development on the land subject of this certificate.

Matters prescribed by section 59(2) of the Contaminated Land Management Act 1997

- (a) The land subject of this certificate is not significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.
- (b) The land subject of this certificate is not subject to a management order within the meaning of the Contaminated Land Management Act 1997.

**PLANNING CERTIFICATE UNDER SECTION 149
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- (c) The land subject of this certificate is not the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.
- (d) The land subject of this certificate is not subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.
- (e) The land subject of this certificate is not the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 provided to Council.

**INFORMATION PROVIDED UNDER SECTION 149(5) OF THE ENVIRONMENTAL
PLANNING AND ASSESSMENT ACT 1979**

All properties within the Campbelltown City local government area may be affected by flooding caused by overland flow or local topography. Applicants will need to make their own assessment of the risk associated with these matters. For more information, contact Council's Flood Mitigation and Drainage Section in writing.

Council is currently undertaking a flood study of the Bow Bowing / Bunbury Curran Creek Catchment, of which this property is a part. The results of this study will improve Council's understanding of flood behaviour in the catchment, and the flood affectation of all properties will be reassessed when this study is finalised. It is anticipated that the Floodplain Risk Management Plan will be finalised by the end of 2015.

Council has received a copy of the map "Salinity Potential in Western Sydney - 2002" from the Department of Infrastructure, Planning and Natural Resources (DIPNR). This map classifies the land within the Campbelltown City local government area as having either known salinity, high salinity potential, moderate salinity potential or low salinity potential. Salinity issues may be of relevance to any development of the land subject of this certificate. For further information, contact the Department of Infrastructure, Planning and Natural Resources (www.dipnr.nsw.gov.au).

It should be noted that the Commonwealth Department of Infrastructure and Regional Development has released a document titled "Preliminary Flight Paths" purporting to provide preliminary information on jet aircraft flight paths and flight zones for each of the design options for the Second Sydney Airport Proposals. Some of the flight paths and flight zones shown in this document may, if implemented, impact upon the environment in the vicinity of the land subject of this certificate. Further enquiries in respect of this document should be directed initially to the Commonwealth Department of Infrastructure and Regional Development.

The land subject of this certificate does not have a boundary to a controlled access road.

The following draft development control plans (DCPs), that have been placed on exhibition by Council but which have not yet come into effect, apply to the land subject of this certificate:

Draft Campbelltown (Sustainable City) Development Control Plan 2015.

**PLANNING CERTIFICATE UNDER SECTION 149
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

For further information about these draft development control plans, contact Council's Environmental Planning Section on (02) 4645 4601.



Jeff Lawrence, per 
Director Planning and Environment

Attachment 1

Campbelltown (Urban Area) Local Environmental Plan 2002

Zone 4 (a)—General Industry Zone

(1) What land is within Zone 4 (a)?

Land is within Zone 4 (a) if it is shown coloured mauve on the map.

(2) What are the zone objectives and what effect do they have?

The objectives of this zone are:

- (a) to encourage activities that will contribute to the economic and employment growth of the City of Campbelltown, and
- (b) to allow a range of industrial, storage and allied activities, together with ancillary uses, the opportunity to locate within the City of Campbelltown, and
- (c) to encourage a high quality standard of development which is aesthetically pleasing, functional and relates sympathetically to nearby and adjoining development, and
- (d) to protect the viability of the commercial centres in the City of Campbelltown by limiting commercial activities to those associated with permitted industrial, storage and allied development, and
- (e) to ensure development will not be carried out unless the consent authority is satisfied that the processes to be carried on, the transportation to be involved, or the plant, machinery or materials to be used, do not interfere unreasonably with the amenity of the area.

Except as otherwise provided by this plan, consent must not be granted for development on land within this zone unless the consent authority is of the opinion that carrying out the proposed development would be consistent with one or more of the objectives of this zone.

(3) What development may be carried out without consent?

Development may be carried out on land within this zone without consent for the purpose of:

drainage; forestry; utility installations.

(4) What development may be carried out only with consent?

Development which is not included in subclause (3) or (5) may be carried out with consent on land within this zone.

(5) What development is prohibited?

Development is prohibited on land within this zone if it is for the purpose of:

boarding-houses; bulky goods retailing; caravan parks; commercial premises (other than those associated with, or ancillary to, any other permissible development and located on the same site as that development); dwellings (other than conjoint dwellings); exhibition homes; extractive industries; hazardous industries; hazardous storage establishments; hospitals; institutions; liquor stores; offensive industries; offensive storage establishments; places of assembly; religious establishments (other

than those in existing industrial buildings); retail plant nurseries; roadside stalls; shops (other than those primarily intended to serve people employed or occupied in land uses permitted in the industrial zones).

NOTE: A copy of the complete written instrument for the Campbelltown (Urban Area) Local Environmental Plan 2002 is available on the NSW Legislation website at: www.legislation.nsw.gov.au.

Attachment 2

Campbelltown (Urban Area) Local Environmental Plan 2002

32 Subdivision generally

- (1) Land to which this plan applies may be subdivided only with development consent.
- (2) Consent must not be granted to the subdivision of land traversed by a zone boundary unless the boundaries of lots so created correspond generally with the boundaries between the zones as shown on the map.
- (3) Where the subdivision of land would result in the opening of a new road, the road must accord with any pattern of proposed roads indicated on the map unless the consent authority is satisfied that the road will provide adequate access to adjoining land and fulfils the objectives of the road pattern indicated on the map.

33 Subdivision in rural and environmental protection zones

- (1) Consent must not be granted to the subdivision of land in a zone specified in the following Table unless the area of any lot created is equal to or greater than that shown opposite that zone in that Table.

Table

Zone	Lot
1 (a)	40 hectares
1 (d)	40 hectares
7 (d1)	100 hectares
7 (d4)	2 hectares
7 (d5)	1 hectare
7 (d6)	0.4 hectare

- (2) Despite subclause (1), consent may be granted to the subdivision of land in any of the zones specified in the Table so as to create lots with areas less than those set out in that Table if:
 - (a) the consent authority is satisfied that the purpose of the subdivision is to create a lot or lots to be used for the purpose of a public utility undertaking or public reserve, or
 - (b) the consent authority is satisfied that the purpose of the subdivision is to align the boundaries of those lots with the boundaries of a zone so specified.
- (2) For the purposes of subclause (2), an *existing holding* is the aggregation of all adjacent or adjoining lots or portions held in the same ownership at the relevant date shown in italics on the map for that zone or the part of that zone within which the existing holding is located.

34 Dual occupancies in certain zones

(1) If two dwellings are situated on the same lot within Zone 2 (b):

- (a) the separate occupation of the lots illustrated by a proposed strata plan relating to the dwellings is prohibited, and
- (b) subdivision of the land under the *Conveyancing Act 1919* or the *Community Land Development Act 1989* is prohibited,

unless the area of each lot that will be the subject of a separate title for a dwelling when the plan is registered is not less than 350 square metres.

(2) If two dwellings are situated on the same lot or an existing holding within Zone 1 (a), 7 (d1), 7 (d4), 7 (d5) or 7 (d6):

- (a) the separate occupation of the lots illustrated by a proposed strata plan relating to the dwellings is prohibited, and
- (b) subdivision of the land under the *Conveyancing Act 1919* or the *Community Land Development Act 1989* is prohibited,

unless the area of each lot that will be the subject of a separate title for a dwelling when the plan is registered is not less than the area for a lot in the zone shown in the Table in clause 33.

35 Erection of dwelling houses or dual occupancies in certain zones

(1) Consent must not be granted to the erection of a dwelling house or a dual occupancy (attached) on land within Zone 1 (a), 7 (d1), 7 (d4), 7 (d5) or 7 (d6) unless:

- (a) the area of the lot on which it is to be erected is equal to or greater than the area shown opposite that zone in the Table in clause 33, and
- (b) only one dwelling house or one dual occupancy (attached) is to be erected on the lot.

(2) Despite subclause (1), consent may be granted to the erection of one dwelling house or one dual occupancy (attached) on land within Zone 7 (d4) if:

- (a) that land constituted the whole of an existing holding, or
- (b) the land is a lot created pursuant to clause 33 (2), but not a lot to be used for the purpose of a public utility undertaking or public reserve.

(3) For the purposes of this clause, an *existing holding* is the aggregation of all adjacent or adjoining lots or portions held in the same ownership at the relevant date shown in italics on the map for the part of that zone within which the existing holding is located.

42C Minto Renewal Project

- (1) This clause applies to certain land at Minto, as shown distinctively coloured, edged heavy black and lettered on Sheet 1 of the map marked "Campbelltown (Urban Area) Local Environmental Plan 2002 (Amendment No 14)".
- (2) Despite any other provision of this plan, nothing restricts or prohibits the consent authority from granting consent to development of the land to which this clause applies for one or more of the following purposes:
 - (a) bushfire fighting establishments,
 - (b) bushfire hazard reduction,
 - (c) car parking,
 - (d) community facilities,
 - (e) recreation areas,
 - (f) recreation facilities,
 - (g) roads,
 - (h) underground mining.
- (3) Despite any other provision of this plan, nothing restricts or prohibits the consent authority from granting consent to development of the land to which this clause applies that is within Zone 2 (b) for the purpose of integrated housing development.
- (4) If 2 dwellings are situated on the same lot on land that is within Zone 2 (b) on the land to which this clause applies:
 - (a) the separate occupation of the lots illustrated by a proposed strata plan relating to the dwellings is prohibited, and
 - (b) subdivision of the land under the *Conveyancing Act 1919* is prohibited, unless the area of each lot that will be the subject of a separate title for a dwelling when the plan is registered is not less than 300 square metres.
- (5) In this clause, *integrated housing development* means development that includes subdivision and that results in:
 - (a) there being 3 or more dwellings, each on a separate lot, and
 - (b) the average area of all those separate lots with dwellings is not less than 225 square metres.

Division 2A Edmondson Park Urban Release Area Precinct

51H Density controls

- (1) The consent authority must not grant consent to the erection of dwellings on land within the Edmondson Park Urban Release Area Precinct unless the net site density applying in relation to the proposed dwellings on the land is not less than the prescribed net site density applying in relation to the land.
- (2) The consent authority must not grant consent to the subdivision of land within the Edmondson Park Urban Release Area Precinct unless the consent authority is of the opinion that the proposal is not inconsistent with the prescribed net site density applying in relation to the land.
- (3) Despite subclause (1), the consent authority may consent to the erection of dwellings on land within Zone 2 (c), 3 (a) or 3 (c) even though the net site density applying in relation to the proposed dwellings is less than the prescribed net site density if:
 - (a) the proposed net site density is not less than the prescribed net site density (if any) that would apply if the boundary of the land was located 60 metres away in at least one direction, and
 - (b) the consent authority is satisfied that the proposed density is required:
 - (i) to incorporate an efficient road layout in connection with the proposed development, or
 - (ii) to achieve the optimum development of the land in a planning and urban design sense.
- (4) *State Environmental Planning Policy No 1—Development Standards* does not apply in relation to any prescribed net site density.
- (5) In this clause:

net site density, in relation to dwellings, means the ratio that the number of dwellings concerned bears to the area occupied by those dwellings, excluding any public roads, open space or drainage corridors.

prescribed net site density, in relation to land, means the minimum net site density applying in relation to dwellings on the land, as identified on Sheet 2 of the map marked "Campbelltown (Urban Area) Local Environmental Plan 2002 (Amendment

Attachment 1

Campbelltown Local Environmental Plan 2015

Zone IN1 General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To provide for a range of facilities and services to meet the day-to-day needs of workers in the area.
- To enable non-industrial land uses that are compatible with and do not detract from industrial and warehouse uses or impact on the viability of existing centres.
- To ensure that any commercial, retail or other non-industrial development is not likely to adversely affect employment generating activities or opportunities.
- To facilitate diverse and sustainable means of access and movement.

2 Permitted without consent

Nil

3 Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Car parks; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; General industries; Helipads; Highway service centres; Industrial retail outlets; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Mortuaries; Neighbourhood shops; Passenger transport facilities; Places of public worship; Roads; Rural industries; Rural supplies; Service stations; Sex services premises; Signage; Storage premises; Take away food and drink premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres

4 Prohibited

Any development not specified in item 2 or 3

NOTE: A copy of the complete written instrument for the Campbelltown Local Environmental Plan 2015 is available on the NSW Legislation website at: <http://www.legislation.nsw.gov.au>

Attachment 2

Campbelltown Local Environmental Plan 2015

4.1 Minimum subdivision lot size

- (1) The objectives of this clause are as follows:
 - (a) to ensure that the density of development is compatible with the capacity of existing and proposed infrastructure,
 - (b) to ensure that the density of settlement will be compatible with the objectives of the zone,
 - (c) to limit the density of settlement in environmentally, scenically or historically sensitive areas,
 - (d) to ensure lot sizes are compatible with the conservation of natural systems, including waterways, riparian land and groundwater dependent ecosystems,
 - (e) to facilitate viable agricultural undertakings,
 - (f) to protect the curtilage of heritage items and heritage conservation areas,
 - (g) to facilitate a diversity of housing forms.
- (2) This clause applies to a subdivision of any land shown on the Lot Size Map that requires development consent and that is carried out after the commencement of this Plan.
- (3) The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.
- (4) This clause does not apply in relation to the subdivision of individual lots in a strata plan or community title scheme.
- (4A) If a lot is a battle-axe lot or other lot with an access handle, the area of the access handle is not to be included in calculating the lot size.
- (4B) Despite subclause (3), development consent may be granted for the subdivision of land into lots that do not meet the minimum size shown on the Lot Size Map if the lots are residue lots resulting

4.1AA Minimum subdivision lot size for community title schemes

- (1) The objectives of this clause are as follows:
 - (a) to provide for the proper and orderly development of land,
 - (b) to ensure that land developed under the *Community Land Development Act 1989* will achieve densities consistent with the objectives of the zone,
 - (c) to protect the curtilage of heritage items and heritage conservation areas.

- (2) This clause applies to a subdivision (being a subdivision that requires development consent) under the *Community Land Development Act 1989* of land in any of the following zones:
 - (a) Zone RU2 Rural Landscape,
 - (b) Zone R2 Low Density Residential,
 - (c) Zone R3 Medium Density Residential,
 - (d) Zone R5 Large Lot Residential,
 - (e) Zone E3 Environmental Management,
 - (f) Zone E4 Environmental Living.
- (3) The size of any lot resulting from a subdivision of land to which this clause applies (other than any lot comprising association property within the meaning of the *Community Land Development Act 1989*) is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

4.1A Maximum dwelling density in certain residential areas

- (1) The objectives of this clause are as follows:
 - (a) to restrict the dwelling yield on certain land,
 - (b) to ensure that infrastructure is not overburdened,
 - (c) to provide for a diversity of dwelling types.
- (2) This clause applies to land identified as "Restricted dwelling yield" on the Restricted Dwelling Yield Map.
- (3) Despite clauses 4.1, 4.1AA, 4.1B and 4.1C, the total number of dwellings that may be created by the development of land specified in Column 1 of the table to this clause must not exceed the number specified in Column 2 of the table.

Column 1	Column 2
"Area 1" on the Restricted Dwelling Yield Map, being land at Airds-Bradbury	2104
"Area 2" on the Restricted Dwelling Yield Map, being land at Claymore	1490
"Area 3" on the Restricted Dwelling Yield Map, being land at the Western Sydney University	850

4.1B Minimum subdivision lot sizes for dual occupancies in certain zones

- (1) The objectives of this clause are as follows:
 - (a) to achieve planned residential density in certain zones,
 - (b) to ensure that lot sizes are consistent with the predominant subdivision pattern of the area and maintain a low density residential character in existing neighbourhoods,
 - (c) to facilitate development applications seeking concurrent approval for dual occupancy development and subdivision,

- (d) to prevent the fragmentation of land.
- (2) Despite clause 4.1, development consent may be granted to development for the purpose of a dual occupancy if the development will be on a lot that is at least the minimum size shown on the Lot Size for Dual Occupancy Development Map in relation to that land.
- (3) Despite clause 4.1 and subclause (2), development consent may be granted for the subdivision of land in Zone R2 Low Density Residential into lots that are less than the minimum lot size shown on the Lot Size Map in relation to that land if:
 - (a) there is an existing dual occupancy on the land that was lawfully erected under an environmental planning instrument or there is a development application for the concurrent approval of a dual occupancy and its subdivision into 2 lots, and
 - (b) the lot size of each resulting lot will be at least 300 square metres, and
 - (c) the subdivision will not result in more than one principal dwelling on each resulting lot.

4.1C Minimum qualifying site area and lot size for certain residential and child care centre development in residential zones

- (1) The objectives of this clause are as follows:
 - (a) to achieve planned residential densities in certain zones,
 - (b) to achieve satisfactory environmental and infrastructure outcomes,
 - (c) to minimise any adverse impact of development on residential amenity,
 - (d) to minimise land use conflicts.
- (2) Development consent may be granted to development for a purpose specified in the table to this clause on land in a zone listed beside the purpose, if the area of the lot is equal to or greater than the area specified in Column 3 of the table.
- (3) Development consent may be granted to the subdivision of land in a zone that is specified in the table to this clause for a purpose listed beside the zone, if the area of the lot to be created is equal to or greater than the area specified in Column 4 of the table.

Column 1	Column 2	Column 3	Column 4
Dwelling house	Zone R2 Low Density Residential	500 square metres	500 square metres
Dual occupancy	Zone R2 Low Density Residential	700 square metres	300 square metres
Semi-detached dwelling	Zone R2 Low Density Residential	700 square metres	300 square metres
Attached dwelling	Zone R2 Low Density Residential	1,000 square metres	300 square metres
Multi dwelling	Zone R2 Low	1,000 square metres	300 square metres

housing	Density Residential		
Child care centres	Zone R2 Low Density Residential or Zone R3 Medium Density Residential	800 square metres	N/A
Residential flat buildings	Zone R4 High Density Residential	1,200 square metres	1,200 square metres

4.1D Minimum lot sizes for certain land uses in certain environment protection zones

- (1) The objectives of this clause are as follows:
 - (a) to allow for certain non-residential land uses,
 - (b) to minimise any adverse impact on local amenity and the natural environment,
 - (c) to achieve satisfactory environmental and infrastructure outcomes,
 - (d) to minimise land use conflicts.
- (2) This clause applies to land in the following zones:
 - (a) Zone E3 Environmental Management,
 - (b) Zone E4 Environmental Living.
- (3) Development consent may be granted to development for a purpose specified in the table to this clause on land in a zone listed beside the purpose, if the area of the lot is equal to or greater than the area specified in the table.

Column 1	Column 2	Column 3
Animal boarding or training establishments	Zone E3 Environmental Management	5 hectares
Educational establishments	Zone E3 Environmental Management or Zone E4 Environmental Living	10 hectares
Places of public worship	Zone E3 Environmental Management	10 hectares

4.2 Rural subdivision

- (1) The objective of this clause is to provide flexibility in the application of standards for subdivision in rural zones to allow land owners a greater chance to achieve the objectives for development in the relevant zone.
- (2) This clause applies to the following rural zones:
 - (a) Zone RU1 Primary Production,
 - (b) Zone RU2 Rural Landscape,
 - (c) Zone RU4 Primary Production Small Lots,
 - (d) Zone RU6 Transition.

Note. When this Plan was made it did not include all of these zones.

- (3) Land in a zone to which this clause applies may, with development consent, be subdivided for the purpose of primary production to create a lot of a size that is less than the minimum size shown on the Lot Size Map in relation to that land.
- (4) However, such a lot cannot be created if an existing dwelling would, as the result of the subdivision, be situated on the lot.
- (5) A dwelling cannot be erected on such a lot.
Note. A dwelling includes a rural worker's dwelling (see definition of that term in the Dictionary).

4.2A Erection of dwelling houses or dual occupancies (attached) on land in certain rural and environment protection zones

- (1) The objectives of this clause are as follows:
 - (a) to enable the replacement of lawfully erected dwelling houses and dual occupancies (attached), and the realisation of dwelling entitlements in rural and environment protection zones,
 - (b) to restrict the extent of residential development in rural and environment protection zones to maintain the existing character,
 - (c) to recognise the contribution that development density in these zones makes to the landscape and environmental character of those places.
- (2) This clause applies to land in the following zones:
 - (a) Zone RU2 Rural Landscape,
 - (b) Zone E3 Environmental Management,
 - (c) Zone E4 Environmental Living.
- (3) Development consent must not be granted for the erection of a dwelling house or a dual occupancy (attached) on land to which this clause applies unless the land:
 - (a) is a lot that has at least the minimum lot size shown on the Lot Size Map in relation to that land, or
 - (b) is a lot created under this Plan (other than clause 4.2 (3)), or
 - (c) is a lot created under an environmental planning instrument before this Plan commenced and on which the erection of a dwelling house or a dual occupancy (attached) was permissible immediately before that commencement, or
 - (d) is a lot resulting from a subdivision for which development consent (or its equivalent) was granted before this Plan commenced and on which the erection of a dwelling house or a dual occupancy (attached) would have been permissible if the plan of subdivision had been registered before that commencement, or
 - (e) is an existing holding, or
 - (f) would have been a lot or holding referred to in paragraph (a), (b), (c), (d) or (e) had it not been affected by:
 - (i) a minor realignment of its boundaries that did not create an additional lot, or

- (ii) a subdivision creating or widening a public road or public reserve or for another public purpose, or
- (iii) a consolidation with an adjoining public road or public reserve or for another public purpose.

Note. A dwelling cannot be erected on a lot created under clause 9 of *State Environmental Planning Policy (Rural Lands) 2008* or clause 4.2.

- (4) Development consent must not be granted under subclause (3) unless:
 - (a) no dwelling house or dual occupancy (attached) has been erected on the land, and
 - (b) if a development application has been made for development for the purposes of a dwelling house or dual occupancy (attached) on the land—the application has been refused or it was withdrawn before it was determined, and
 - (c) if development consent has been granted in relation to such an application—the consent has been surrendered or it has lapsed.
- (5) Development consent may be granted for the erection of a dwelling house or a dual occupancy (attached) on land to which this clause applies if there is a lawfully erected dwelling house or dual occupancy (attached) on the land and the dwelling house or dual occupancy (attached) proposed to be erected is intended only to replace the existing dwelling house or dual occupancy (attached).
- (6) Development consent may be granted to convert a dwelling house into, or to replace a dwelling house with, a dual occupancy (attached) on land to which this clause applies if no dual occupancy (attached) exists on the land and the dual occupancy (attached) is designed and will be constructed to have the appearance of a single dwelling.
- (7) In this clause:
 - existing holding** means land that:
 - (a) was a holding on the relevant date, and
 - (b) is a holding at the time the application for development consent referred to in subclause (3) is lodged,

whether or not there has been a change in the ownership of the holding since the relevant date, and includes any other land adjoining that land acquired by the owner since the relevant date.

holding means all adjoining land, even if separated by a road or railway, held by the same person or persons.

relevant date means:

- (a) in the case of land to which *Campbelltown (Urban Area) Local Environmental Plan 2002* applied immediately before the commencement of this Plan:
 - (i) for land identified as “25 February 1977” on the Former LEP and IDO Boundaries Map—25 February 1977, or
 - (ii) for land identified as “15 July 1977” on the Former LEP and IDO Boundaries Map—15 July 1977, or
 - (iii) for land identified as “3 November 1978” on the Former LEP and IDO Boundaries Map—3 November 1978, or

- (b) in the case of land to which *Campbelltown Local Environmental Plan—District 8 (Central Hills Lands)* applied immediately before the commencement of this Plan—20 September 1974, or
- (c) in the case of land to which *Campbelltown Local Environmental Plan No 1* applied immediately before the commencement of this Plan—26 June 1981, or
- (d) in the case of land to which *Interim Development Order No 13—City of Campbelltown* applied immediately before the commencement of this Plan—20 September 1974, or
- (e) in the case of land to which *Interim Development Order No 15—City of Campbelltown* applied immediately before the commencement of this Plan—27 September 1974, or
- (f) in the case of land to which *Interim Development Order No 28—City of Campbelltown* applied immediately before the commencement of this Plan—3 November 1978.

Note. The owner in whose ownership all the land is at the time the application is lodged need not be the same person as the owner in whose ownership all the land was on the stated date.

4.2B Erection of rural workers' dwellings on land in Zones RU2 and E3

- (1) The objectives of this clause are as follows:
 - (a) to facilitate, on the same land, the provision of adequate accommodation for employees involved in existing agricultural activities, including agricultural produce industries,
 - (b) to maintain the non-urban landscape and development characters of certain rural and environment protection zones.
- (2) This clause applies to land in the following zones:
 - (a) Zone RU2 Rural Landscape,
 - (b) Zone E3 Environmental Management.
- (3) Development consent must not be granted for the erection of a rural worker's dwelling on land to which this clause applies unless the consent authority is satisfied that:
 - (a) the development will be on the same lot as an existing lawfully erected dwelling house or dual occupancy (attached), and
 - (b) the development will not impair the use of the land for agricultural activities, including agricultural produce industries, and
 - (c) the agricultural activity or agricultural produce industry has an economic capacity to support the ongoing employment of rural workers, and
 - (d) the development is necessary considering the nature of the existing or proposed agricultural activity or agricultural produce industry occurring on the land or as a result of the remote or isolated location of the land, and
 - (e) there will be not more than one rural worker's dwelling on the lot, and

- (f) the development will be a single storey building with a maximum floor area of 120 square metres or not more than 20% of the floor area of any existing dwelling house on that land, whichever is greater.

4.2C Exceptions to minimum subdivision lot sizes for certain land in Zones RU2 and E3

- (1) The objective of this clause is to allow the owners of certain land to which the following environmental planning instruments applied to excise a home-site area from an existing lot (or existing holding) by the means of a subdivision:
 - (a) *Campbelltown Local Environmental Plan No 1*,
 - (b) *Interim Development Order No 15—City of Campbelltown*.
- (2) Subclause (3) applies to each lot to which *Campbelltown Local Environmental Plan No 1* applied immediately before its repeal that:
 - (a) was in existence on 26 June 1981, and
 - (b) is in Zone E3 Environmental Management, and
 - (c) has an area of at least 10 hectares.
- (3) Development consent must not be granted to the subdivision of the land to which this subclause applies unless the proposed subdivision will result in the creation of only 2 lots, each of which must have an area of at least 2 hectares.
- (4) Subclause (5) applies to each lot to which *Interim Development Order No 15—City of Campbelltown* applied immediately before its repeal that:
 - (a) was in existence on 18 July 1973, and
 - (b) is in Zone RU2 Rural Landscape.
- (5) Development consent must not be granted to the subdivision of the land to which this subclause applies unless the smallest lot to be created has an area of at least 2 hectares and is required for the erection of a dwelling house for occupation by:
 - (a) the person who owned the land on 18 July 1973, or
 - (b) a relative of that owner, or
 - (c) a person employed or engaged by that owner in the use of land of the owner adjoining or adjacent to that lot for the purpose of agriculture.
- (6) The total number of lots that may be created by the subdivision of land to which subclause (5) applies, whether by one or more subdivisions, must not exceed:
 - (a) if the land to be subdivided had an area of less than 10 hectares—nil, or
 - (b) if the land to be subdivided had an area of at least 10 hectares but less than 40 hectares—1, or
 - (c) if the land to be subdivided had an area of at least 40 hectares but less than 80 hectares—2, or

- (d) if the land to be subdivided had an area of at least 80 hectares—
3.

4.2D Exceptions to minimum subdivision lot sizes for certain land in Zone E4

- (1) The objective of this clause is to permit the subdivision of certain land in the East Edge Scenic Protection Lands Area to create lots of a size that are less than the minimum lot size shown on the Lot Size Map in relation to that land.
- (2) This clause applies to land identified as “1 ha” on the Lot Averaging Map.
- (3) Despite clause 4.1, development consent may be granted to the subdivision of land to which this clause applies if the subdivision will not create a number of lots that is more than the number resulting from multiplying the total area of the land being subdivided by the maximum density control number specified on the Lot Averaging Map in relation to that land.
- (4) Development consent must not be granted under this clause unless the consent authority is satisfied that:
 - (a) the pattern of lots created by the subdivision, the provision of access and services and the location of any future buildings on the land will not have a significant detrimental impact on native vegetation, and
 - (b) each lot to be created by the subdivision contains a suitable land area for:
 - (i) a dwelling house, and
 - (ii) an appropriate asset protection zone relating to bush fire hazard, and
 - (iii) if reticulated sewerage is not available to the lot—on-site sewage treatment, management and disposal, and
 - (iv) other services related to the use of the land for residential occupation, and
 - (c) if reticulated sewerage is not available to the lot—a geotechnical assessment demonstrates to the consent authority’s satisfaction that the lot can suitably accommodate the on-site treatment, management and disposal of effluent, and
 - (d) adequate arrangements are in place for the provision of infrastructure to service the needs of development in the locality.

NOTE: A copy of the complete written instrument for the Campbelltown Local Environmental Plan 2015 is available on the NSW Legislation website at: <http://www.legislation.nsw.gov.au>



APPENDIX J

Borehole and Well Construction Logs



REPORT OF BOREHOLE: GA-BH01

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 299913.0 m E 6231087.0 m N MGA94 56
SURFACE RL: 47.33 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 3.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 16/2/16
CHECKED: BMS DATE: 19/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT	L	GWNE	0	47.33	GA-BH01_01 0.10 m DS x 2, Trip 4, Dup 4 PID = 0 ppm				FILL: Silty Gravelly SAND fine to coarse grained, grey with off white, fine to medium grained igneous and sandstone angular gravels	D		FILL
			0.60	46.73	PID = 0 ppm GA-BH01_02 0.50 m Jar			FILL: Silty CLAY high plasticity, orange brown with dark grey, with some sand, trace organics (grasses)	PP @ 0.8 m > 400 kPa			
			1	1.50	45.83	GA-BH01_03 SPT 0.50-0.95 m 5, 6, 8 N=14 GA-BH01_04 1.00 m Jar			As above becoming dark brown, with trace fine angular gravels			
			2	2.00	45.33	GA-BH01_05 SPT 2.00- 2.45 m 5, 9, 10 N=19 GA-BH01_06 BDS 2.00-3.00 m		CH	CLAY high plasticity, orange brown with grey, trace organics (rootlets)	M (<PL)	VSt	ALLUVIUM PP @ 2.3 m > 400 kPa
			3	44.33	GA-BH01_07 3.00 m Jar				END OF BOREHOLE @ 3.00 m TARGET DEPTH BACKFILLED			
			4									
			5									
			6									
			7									
			8									
			9									
			10									

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: GA-BH02

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 299920.0 m E 6231513.0 m N MGA94 56
SURFACE RL: 46.56 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 7.96 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 17/2/16
CHECKED: BMS DATE: 19/2/16

Drilling				Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT	L		0	46.56	GA-BH02_01 0.10 m 2 x DS, Jar PID = 5.6 ppm			TOPSOIL: Clayey SILT medium plasticity, brown to pale brown, with some sand and cemented clay gravels, trace organics (rootlets)	D		TOPSOIL
				0.30							FILL
				46.26							
				0.70				FILL: Silty SAND fine to coarse grained, pale brown and off white, sub-angular medium sedimentary gravel			
				45.86							PP @ 0.8m >400kPa
			1		GA-BH02_03 Jar SPT 0.50-0.95 m 7, 12, 16 N=28 PID = 5.1 ppm			FILL: Silty CLAY high plasticity, brown, with cemented angular medium gravels, trace fine sub-angular gravels			
					GA-BH02_04 1.00 m Jar PID = 10.3 ppm						
			2	2.00							
				44.56				As above becoming dark brown			PP @ 2.3m >400kPa
			3								
ADT	M			3.40			CH	CLAY high plasticity, grey and orange brown, with some dark grey staining	M (<PL)	VSt	ALLUVIUM
				43.16							PP @ 3.8m >400kPa
			4		GA-BH02_06 Jar SPT 3.50-3.95 m 5, 8, 12 N=20						
			5								
					GA-BH02_07 SPT 5.00-5.45 m 5, 7, 9 N=16						PP @ 5.2m >400kPa
				5.90							
			6	40.66				As above with increasing grey content			
				6.87							PP @ 6.6m 100-200kPa
ADT			7	39.69			CH	CLAY high plasticity, grey	M (>PL)		
					GA-BH02_08 Jar SPT 6.50-6.95 m 3, 3, 21 N=24						
ADT			8	38.60				END OF BOREHOLE @ 7.96 m TARGET DEPTH PIEZOMETER INSTALLED			
ADT			9								
ADT			10								

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GAP gINT FN. F01a
RL3



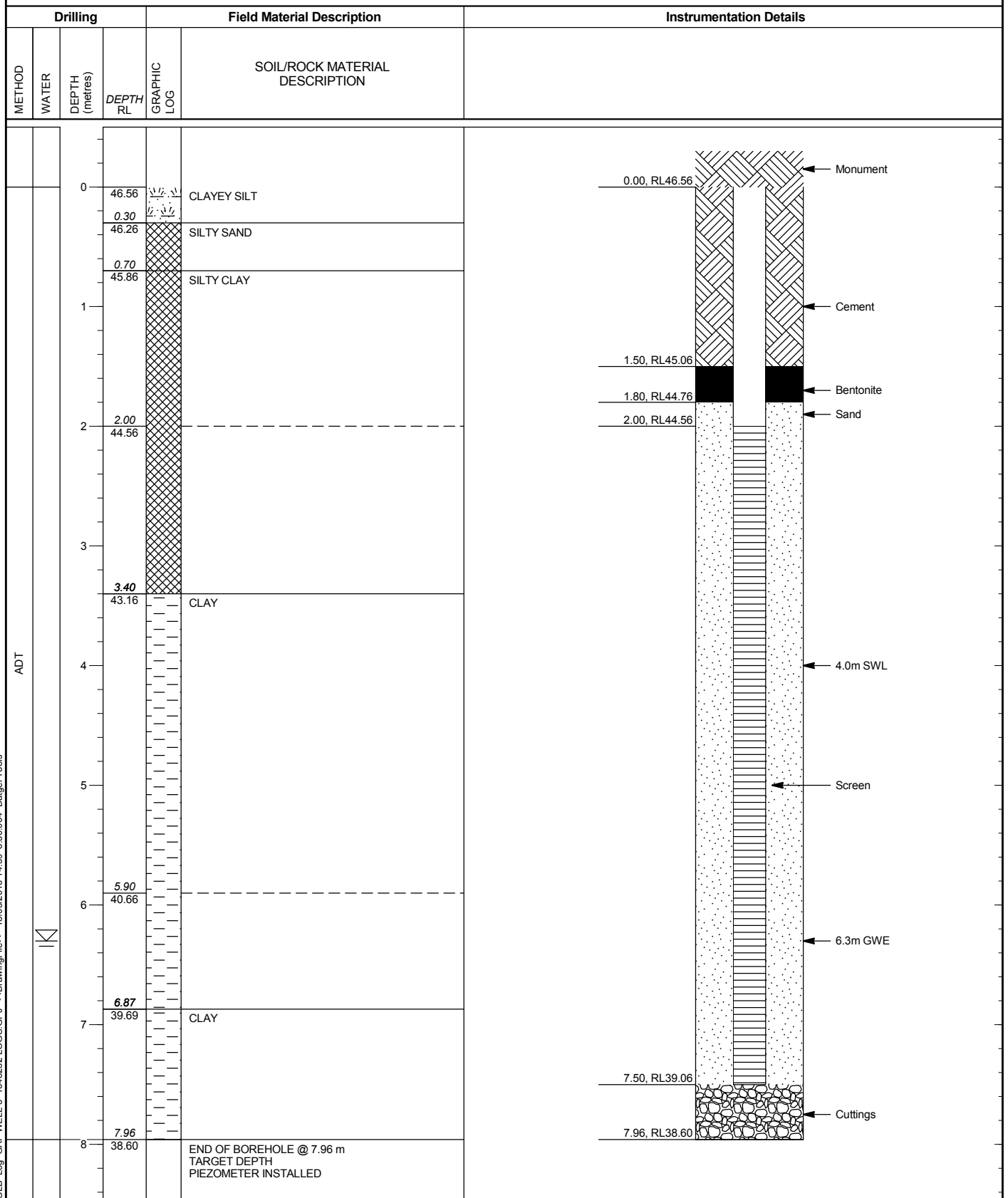
REPORT OF STANDPIPE INSTALLATION: GA-BH02

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 299920.0 m E 6231513.0 m N MGA94 56
SURFACE RL: 46.56 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 7.96 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 17/2/16
CHECKED: BMS DATE: 19/2/16



This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.



REPORT OF BOREHOLE: GA-BH03

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300103.0 m E 6231469.0 m N MGA94 56
SURFACE RL: 46.39 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 3.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 17/2/16
CHECKED: BMS DATE: 19/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT	L	GWNE	0	0.10	GA-BH03_01				TOPSOIL: Gravelly Sandy CLAY	D		TOPSOIL
			46.29	0.10 m	2 x DS, Jar			medium plasticity, dark brown, with some fine to coarse angular sedimentary and igneous gravel, trace organics (rootlets)	FILL			
			0.60	GA-BH03_02			FILL: Gravelly Sandy CLAY					
			45.79	0.50 m	high plasticity, off white and pale brown, with some fine to coarse sedimentary gravel and some angular cemented clay gravels							
				Jar	FILL: Silty CLAY							
			1	GA-BH03_03			medium plasticity, dark brown, with some orange brown and grey cemented clay gravels, trace sand with angular igenous gravels					
				SPT 0.50-0.95 m								
				5, 7, 11 N=18								
				PID = 0.7 ppm								
				GA-BH03_04								
	1.00 m											
	Jar											
	PID = 1.5 ppm											

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: GA-BH04

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300128.0 m E 6230957.0 m N MGA94 56
SURFACE RL: 48.48 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 15/2/16
CHECKED: BMS DATE: 19/2/16

Drilling				Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT	L	I	0	0.10 48.38	GA-BH04_01 0.10 m DS, Jar		CH	TOPSOIL: Silty CLAY high plasticity, pale brown, trace rootlets and trace fine to coarse sub-angular gravels	D	TOPSOIL FILL
			1	0.50 46.68	GA-BH04_02 0.50 m Jar GA-BH04_03 SPT 0.50-0.95 m 11, 14, 23 N=37 GA-BH04_04 1.00 m Jar			FILL: Gravelly SILT low plasticity, grey brown, angular fine to coarse inferred igneous gravels with some sand, trace off white sand and fine gravels		
			2	1.80 46.68	GA-BH04_05 SPT 2.00-2.45 m 6, 7, 9 N=16		CH	FILL: CLAY high plasticity, brown and orange brown, trace dark grey fine angular gravels, trace rootlets	M (<PL) F	ALLUVIUM
			3	3.00 45.48	GA-BH04_06 DS, Jar SPT 3.50-3.95 m 1, 3, 4 N=7			CLAY high plasticity, grey and brown		
			4	5.00 43.48	GA-BH04_07 SPT 5.00-5.45 m 4, 6, 6 N=12		CH	As above with some dark brown sand and fine inferred igneous gravels with rounded gravel content increasing with depth	M (>PL) St	
			5	6.60 41.88	GA-BH04_08 SPT 6.50-6.64 m 21/140mm N=R			CLAY high plasticity, dark grey, trace medium rounded gravel		
			6				CH		H	
			7							
	M		8	40.48				END OF BOREHOLE @ 8.00 m TARGET DEPTH PIEZOMETER INSTALLED		
			9							
			10							

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL3



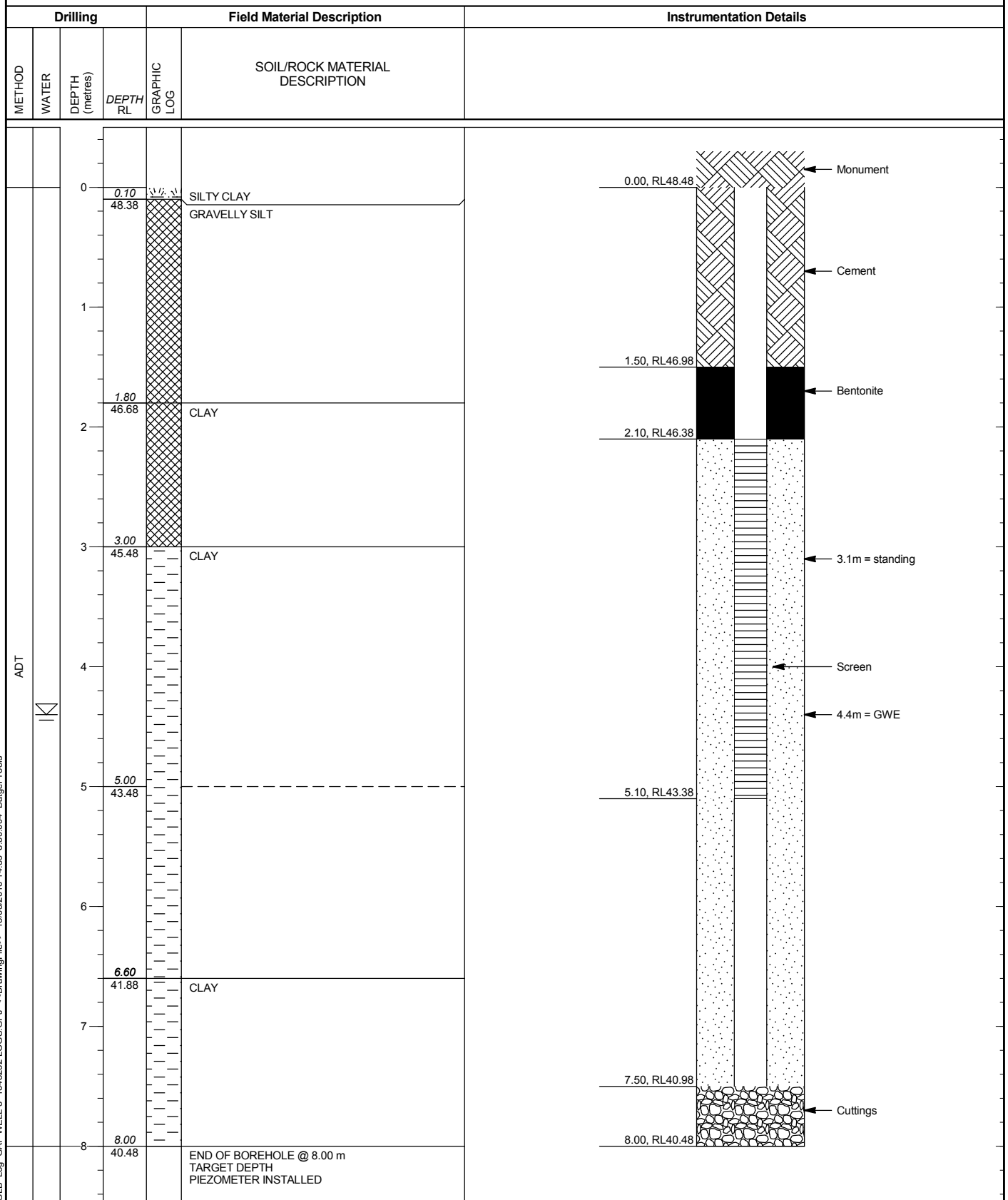
REPORT OF STANDPIPE INSTALLATION: GA-BH04

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300128.0 m E 6230957.0 m N MGA94 56
SURFACE RL: 48.48 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 15/2/16
CHECKED: BMS DATE: 19/2/16



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REPORT OF BOREHOLE: GA-BH05

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300314.0 m E 6231342.0 m N MGA94 56
SURFACE RL: 47.72 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 15/2/16
CHECKED: BMS DATE: 19/2/16

Drilling				Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT	L		0	47.72	GA-BH05_01 DS 0.10 m Jar			TOPSOIL: Sandy SILT low plasticity, pale brown, trace sub-angular fine to medium pale grey granular gravel, trace rootlets			TOPSOIL
			0.40								
			1	47.32	GA-BH05_02 0.50 m Jar GA-BH05_03 SPT 0.50-0.95 m 7, 9, 14 N=23 GA-BH05_08 1.00 m Jar			FILL: Silty CLAY medium to high plasticity, pale brown, trace sub-angular fine to medium gravel			FILL
			2		GA-BH05_04 SPT 2.00-2.45 m 5, 10, 12 N=22					Vst	
			3								
			4	3.60	GA-BH05_05 Jar, DS SPT 3.50-3.95 m 6, 9, 9 N=18		CH	FILL: CLAY high plasticity, pale brown, trace angular gravel		St - Vst	
			5	4.20			CH	CLAY high plasticity, grey with pale brown			ALLUVIUM
			6								
			7	6.40	GA-BH05_06 Jar, DS SPT 5.00-5.45 m 5, 6, 7 N=13					St	
			8	41.32	SPT 6.50-6.52 m 10/20mm N=R			As above with some dark grey fine to medium sub-rounded gravels		M (>PL)	
	H		9								
			10		GA-BH05_07 DS 7.50 m						
			8	39.72				END OF BOREHOLE @ 8.00 m TARGET DEPTH PIEZOMETER INSTALLED			Note: Sides collapsing in backfill cuttings to 7.15m

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F01a
RL3



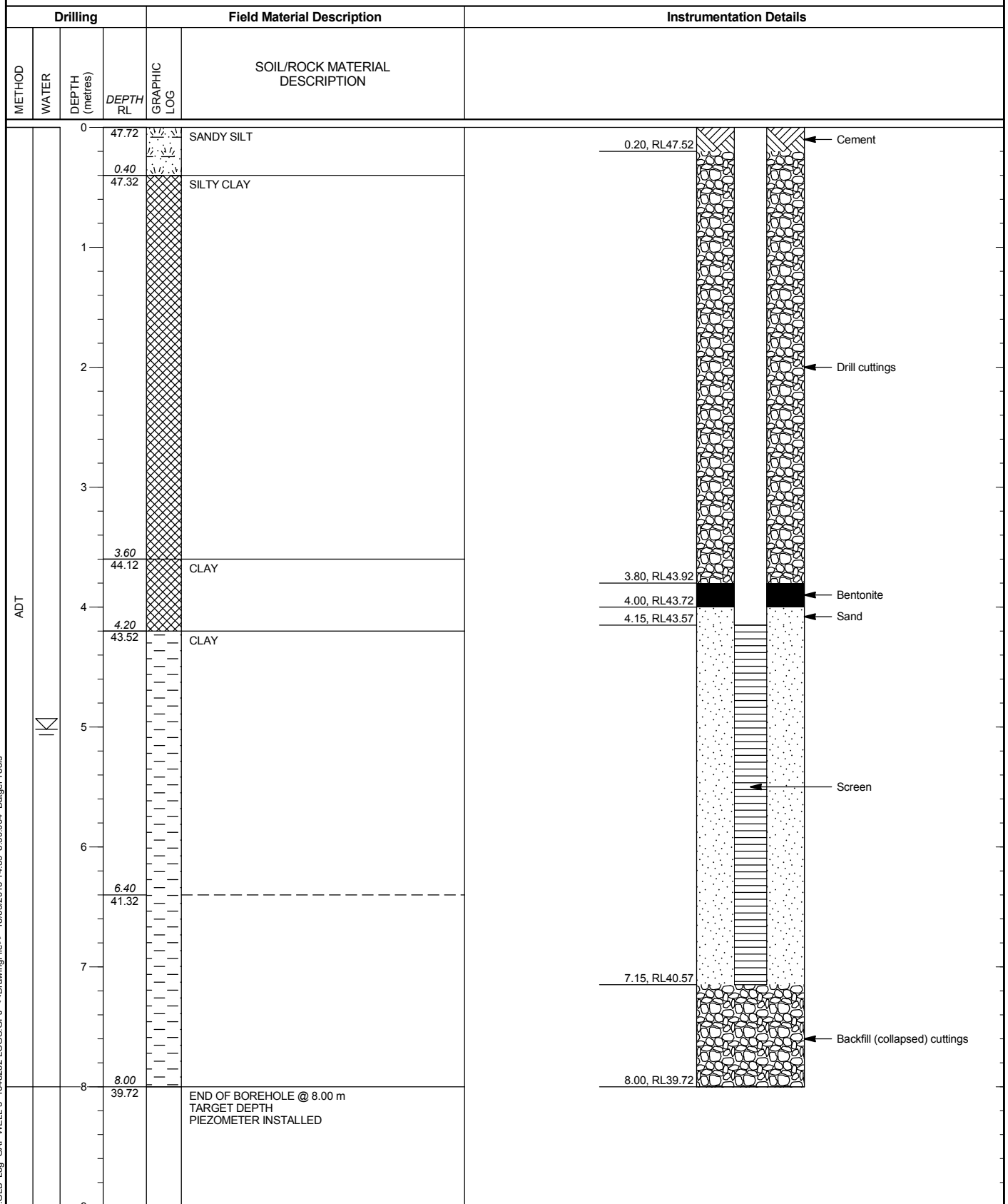
REPORT OF STANDPIPE INSTALLATION: GA-BH05

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300314.0 m E 6231342.0 m N MGA94 56
SURFACE RL: 47.72 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 15/2/16
CHECKED: BMS DATE: 19/2/16



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GAP gINT FN. F17
RL1



REPORT OF BOREHOLE: GA-BH06

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300252.0 m E 6231035.0 m N MGA94 56
SURFACE RL: 47.88 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 3.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 16/2/16
CHECKED: BMS DATE: 19/2/16

Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
ADT	L	GWNE	0	47.88	GA-BH06_01				FILL: Silty Gravelly SAND fine to coarse grained, low plasticity, pale brown, fine to coarse angular igneous gravel	D		FILL	
			0.30	0.10 m									
			47.58	2 x DS, Jar					FILL: CLAY high plasticity, brown with red brown, with some dark grey fine to medium sub-angular gravels, with some organics (decomposed grasses)			PP @ 0.8m: 300-400kPa	
			0.90	Jar, Dup 02, Trip 02									
			46.98	GA-BH06_03					FILL: CLAY high plasticity, dark grey			PP @ 1.2m: 300-400kPa	
	M		1	46.78	SPT 0.50-0.95 m				FILL: CLAY high plasticity, brown with some grey, trace fine to medium sub-angular gravel	M			
					3, 4, 7 N=11								
					GA-BH06_04								
					1.00 m								
					Jar								
		2		GA-BH06_05									
				SPT 1.00-1.45 m									
				5, 8, 8 N=16									
				PID = 0.4 ppm									
				GA-BH06_07									
				BDS 1.10-2.50 m									
				GA-BH06_06									
				Jar									
				SPT 2.50-2.95 m						PP @ 2.6m: 200kPa			
				3, 4, 5 N=9									
		3	44.88					END OF BOREHOLE @ 3.00 m TARGET DEPTH BACKFILLED					
		4											
			5										
			6										
			7										
			8										
			9										
			10										

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GAP gINT FN. F01a
RL3



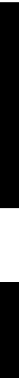
REPORT OF BOREHOLE: GA-BH07

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300165.0 m E 6230798.0 m N MGA94 56
SURFACE RL: 48.82 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 3.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 16/2/16
CHECKED: BMS DATE: 19/2/16

Drilling					Sampling		Field Material Description								
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS			
DTG ADT L GWNE			0	48.79	GA-BH07_01 0.15 m 2 x DS, Jar GA-BH07_06 BDS 0.15-1.50 m PID = 0.1 ppm GA-BH07_02 GA-BH07_03 0.50 m Jar SPT 0.50-0.95 m 3, 3, 4 N=7 PID = 0.2 ppm GA-BH07_04 1.00 m Jar PID = 0.2 ppm GA-BH07_05 SPT 2.00-2.45m 5, 7, 9 N=16 GA-BH07_07 BDS 2.00-3.00 m				ASPHALT dark grey, 28mm angular igneous aggregate, poorly bound, (30 mm thickness)	D		ASPHALT PAVEMENT			
	0.40		FILL: Silty Gravelly SAND fine to coarse grained, high plasticity, pale brown to grey, fine to coarse sub-angular gravel	FILL Inferred sub-base											
	48.42		FILL: CLAY high plasticity, dark red brown with dark grey, trace organics, trace fine sub-angular gravel	FILL PP @ 0.8m: 100-200kPa											
	0.70														
	48.12														
	1														
	1.60														
	47.22														
	2														

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GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: GA-BH08

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300063.0 m E 6230626.0 m N MGA94 56
SURFACE RL: 50.28 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 16/2/16
CHECKED: BMS DATE: 19/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
DTC			0	0.20	GA-BH08_01				ASPHALT			ASPHALT PAVEMENT
			50.08	0.10 m	2 x DS, Jar				dark grey, 28mm angular igneous aggregate, poorly bound, (10 mm thickness)			FILL
				PID = 0.3 ppm	FILL: Gravelly SAND				Sub-base			
				GA-BH08_02	fine to coarse grained, grey to pale grey brown				FILL			
				0.50 m	FILL: Silty CLAY							
				Jar	high plasticity, brown to red brown with pockets of dark grey, with some fine to medium sub-angular gravels							
				GA-BH08_03								
				SPT 0.50-0.95 m								
				2, 2, 2 N=4								
				PID = 0.6 ppm								
L			1	1.80	GA-BH08_04							PP @ 0.8m: 200-300kPa
			48.48	1.00 m	Jar							
				PID = 0.3 ppm								
				GA-BH08_05								
				SPT 2.00-2.45 m								
				4, 7, 11 N=18								
ADT			2		GA-BH08_06				As above with trace organics (rootlets), trace sub-angular fine gravels			PP @ 2.3m: 200-400kPa
				SPT 3.50-3.95 m								
				5, 9, 11 N=20								
M			4	4.40				CH	CLAY			ALLUVIUM
			45.88		high plasticity, brown and grey, with some fine and trace medium sub-angular igneous gravel							
				GA-BH08_07								
				Jar, Trip 03, Dup 03								
				SPT 5.00-5.45 m								
				6, 7, 10 N=17								
			5		GA-BH08_08							PP @ 5.2m: 200-300kPa
				SPT 6.50-6.54 m								
				15/40mm N=R								
			6									
			7									
			8	42.28					END OF BOREHOLE @ 8.00 m			
				TARGET DEPTH								
				PIEZOMETER INSTALLED								
			9									
			10									

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GAP gINT FN. F01a
RL3



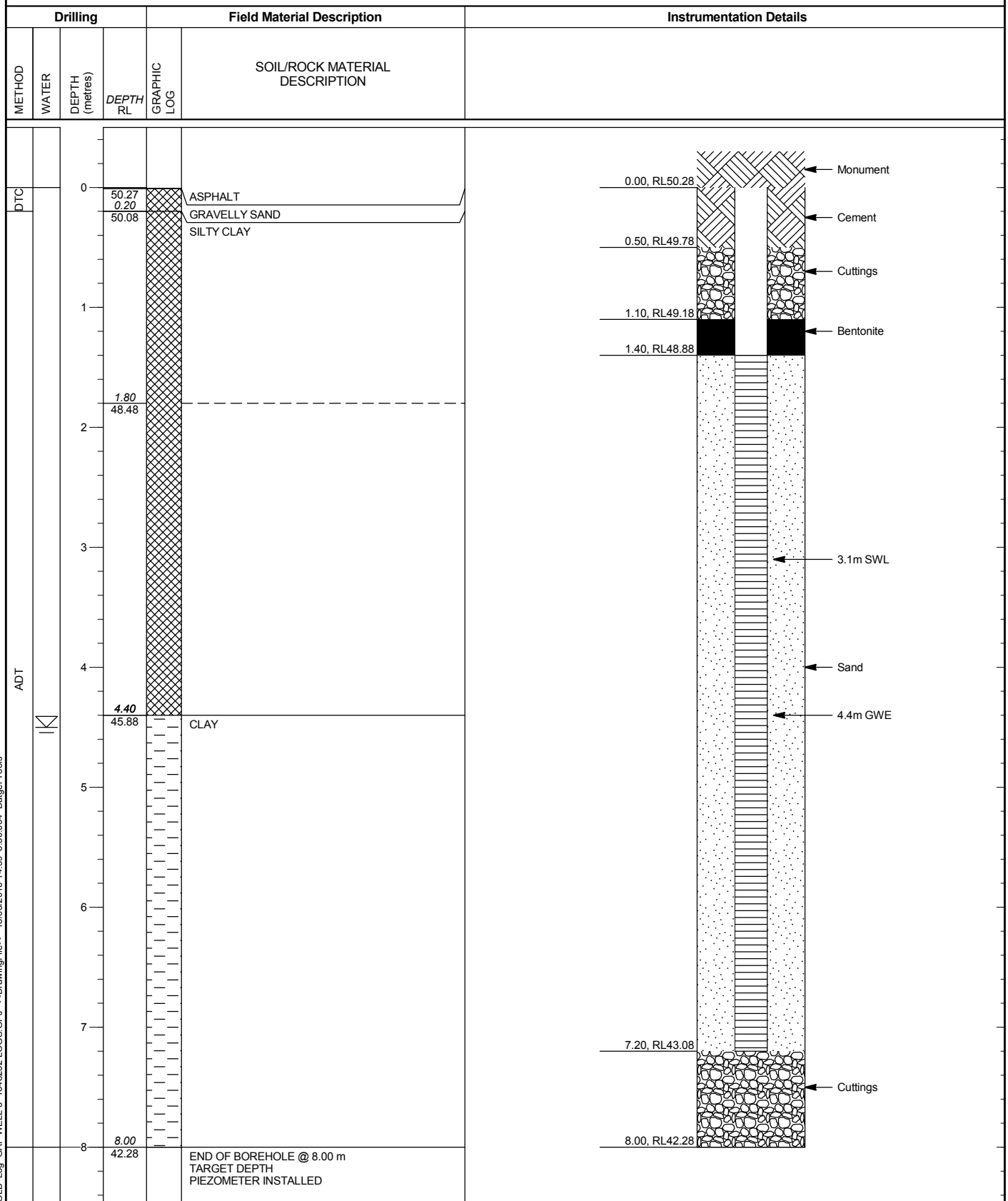
REPORT OF STANDPIPE INSTALLATION: GA-BH08

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300063.0 m E 6230626.0 m N MGA94 56
SURFACE RL: 50.28 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 8.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: Hagstrom
LOGGED: AV DATE: 16/2/16
CHECKED: BMS DATE: 19/2/16



This report of standpipe installation must be read in conjunction with accompanying notes and abbreviations. It has been prepared for geotechnical purposes only, without attempt to assess possible contamination. Any references to potential contamination are for information only and do not necessarily indicate the presence or absence of soil or groundwater contamination.

GAP gINT FN. F17
RL1



REPORT OF HAND AUGERED BOREHOLE: GA-HA01

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300168.0 m E 6231122.0 m N MGA94 56
SURFACE RL: 47.60 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 0.60 m

LOGGED: JND DATE: 15/2/16
CHECKED: BMS DATE: 29/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	M-H	GWNE	0.0	47.60	GA-HA01-001 DS 0.00-0.10 m R = 0A PID = 1.4 ppm				FILL: Silty CLAY low to medium plasticity, brown with red and orange, low liquid limit silt, with some medium to coarse grained sandstone gravel, with some sandstone cobbles	D		INFERRED FILL
			0.5	GA-HA01-002 DS 0.50-0.10 m DUP01/TRIP01 R = 0A PID = 0.5 ppm								
			47.00						END OF HAND AUGER @ 0.60 m TARGET DEPTH GROUNDWATER NOT ENCOUNTERED BACKFILLED			
			1.0									
			1.5									
			2.0									

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

GAP gINT FN. F01a
RL3



REPORT OF HAND AUGERED BOREHOLE: GA-HA02

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300113.0 m E 6231380.0 m N MGA94 56
SURFACE RL: 48.77 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 1.50 m

LOGGED: NS DATE: 26/2/16
CHECKED: BMS DATE: 29/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	M	GWNE	0.0	48.77					FILL: Clayey SILT fine, low - medium plasticity, pale brown, with sandstone pebbles	D		INFERRED FILL Rootlets
			0.5									
			1.0									
			1.5	47.27	GA-HA02 1.50 m R = 0A PID = 0.1 ppm				END OF HAND AUGER @ 1.50 m REFUSAL GROUNDWATER NOT ENCOUNTERED BACKFILLED			

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

GAP gINT FN. F01a
RL3



REPORT OF HAND AUGERED BOREHOLE: GA-HA03

SHEET: 1 OF 1

CLIENT: Tactical Group
 PROJECT: Minto Warehousing and Logistics Hub
 LOCATION: Culverston Road
 JOB NO: 1648232

COORDS: 300155.0 m E 6231308.0 m N MGA94 56
 SURFACE RL: 47.14 m DATUM: AHD
 INCLINATION: -90°
 HOLE DEPTH: 1.00 m

LOGGED: JND DATE: 15/2/16
 CHECKED: BMS DATE: 29/2/16

Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY	DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	M	GWNE	0.0	47.14	GA-HA03-001 DS 0.00-0.10 m R = 0A PID = 1 ppm				FILL: Clayey Gravelly SILT low plasticity, brown, fine to medium grained sub angular to rounded sandstone gravels gravel, low to medium plasticity clay, trace fine grained, sub rounded sand	D			INFERRED FILL
			0.5										
			1.0	46.14	GA-HA03-002 DS 0.90-0.10 m R = 0A PID = 3.5 ppm				END OF HAND AUGER @ 1.00 m TARGET DEPTH GROUNDWATER NOT ENCOUNTERED BACKFILLED				
			1.5										
			2.0										

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GAP gINT FN. F01a
 RL3



REPORT OF HAND AUGERED BOREHOLE: GA-HA04

SHEET: 1 OF 1

CLIENT: Tactical Group
PROJECT: Minto Warehousing and Logistics Hub
LOCATION: Culverston Road
JOB NO: 1648232

COORDS: 300108.0 m E 6231450.0 m N MGA94 56
SURFACE RL: 48.47 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 1.50 m

LOGGED: NS DATE: 26/2/16
CHECKED: BMS DATE: 29/2/16

Drilling					Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USCS SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
HA	M	GWNE	0.0	48.47					FILL: Silty CLAY low - medium plasticity, brown, fine grained silt, with some pebbles	D		INFERRED FILL
				Rootlets								
			1.5	46.97	GA-HA03 1.50 m R = 0A PID = 0.1 ppm				END OF HAND AUGER @ 1.50 m REFUSAL GROUNDWATER NOT ENCOUNTERED BACKFILLED			

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

GAP gINT FN. F01a
RL3



APPENDIX K

Laboratory Certificates and Data Validation Reports

CHAIN OF CUSTODY DOCUMENTATION

Sheet 1 of 1

Project No: 1648232		Lab Name: ALS		COLDER ASSOCIATES PTY LTD		Phone: (02) 9478 3900																																																																																																																																																																																			
Site Location: Prixcar - Minto		Quote No.:		124 Pacific Highway, St Leonards NSW 2065		Fax: (02) 9478 3905																																																																																																																																																																																			
Sampled By: Angus Vowell		Order No.:		Project Manager: Ben Seaford		Reviewed:																																																																																																																																																																																			
Turnaround Time		24hrs ☐ 48hrs ☐ Standard ☒		Job Contact: James Dudley/Angus Vowell		Phone: 0431 987 908		Email: jdudley@golder.com.au																																																																																																																																																																																	
Delivery Option		HARD ☐ EMAIL ☒		ANALYSIS REQUIRED																																																																																																																																																																																					
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Comments/Special Instructions: 								Environmental Division Sydney Work Order Reference ES1604169  Telephone : + 61-2-8784 8555																																																																																																																																																																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>LAB ID</th> <th>SAMPLE ID</th> <th>SAMPLE DEPTH</th> <th>SAMPLE DATE</th> <th>SAMPLE TYPE</th> <th>SAMPLE MATRIX</th> <th>No CONTAINERS</th> <th>Level of Contamination (Low/High/Unknown) or PID reading</th> <th>HOLD</th> <th>TRI/BTEX/PAH/OC/POPP/PCB/IN/YS</th> <th>VOC</th> <th>AVOC</th> <th>Phenols - Speciated</th> <th>Asbestos (NEPM)</th> <th>TRI/BTEX/PAH</th> <th>TRI C6 - C10</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Trip 04</td> <td></td> <td>16/02/2016</td> <td>DS</td> <td>Soil</td> <td>1</td> <td>U</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>										LAB ID	SAMPLE ID	SAMPLE DEPTH	SAMPLE DATE	SAMPLE TYPE	SAMPLE MATRIX	No CONTAINERS	Level of Contamination (Low/High/Unknown) or PID reading	HOLD	TRI/BTEX/PAH/OC/POPP/PCB/IN/YS	VOC	AVOC	Phenols - Speciated	Asbestos (NEPM)	TRI/BTEX/PAH	TRI C6 - C10	1	Trip 04		16/02/2016	DS	Soil	1	U		X	X	X	X																																																																																																																																																			
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1	Trip 04		16/02/2016	DS	Soil	1	U				X	X	X	X																																																																																																																																																																											

SAMPLE MATRIX = Soil/Sediment/Fill/Water/Other				SAMPLE TYPE = Composite(CY)/Discrete(DC)/Disturbed(DS)/Core(CR), Grab Sample (GS)				HIGH CONCENTRATION: circle expected parameters in analysis list									
SIGNATURE		COMPANY		DATE		TIME		SIGNATURE		COMPANY		DATE		TIME		Method of Shipment	
RELEASED BY		Golder		23/2/16		12:00		RELEASED BY								Shipping Ref	
RECEIVED BY								RECEIVED BY									
RELEASED BY								RELEASED BY									
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RECEIVED BY								RECEIVED BY									

To Be Filled Out By Analysing Laboratory						LAB. BATCH NUMBER	
Security Seal	☐	Chilled	☐	Bill to:			
Suitable Containers	☐	Frozen	☐	Address			
Cool Box	☐	Ambient	☐				

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES1604169	Page	: 1 of 7
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Sydney
Contact	: MR JAMES DUDLEY	Telephone	: +61-2-8784 8555
Project	: 1648232	Date Samples Received	: 24-Feb-2016
Site	: PRIXCAR-MINTO	Issue Date	: 02-Mar-2016
Sampler	: A VOWELL	No. of samples received	: 1
Order number	: 1648232	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.

Page : 2 of 7
 Work Order : ES1604169
 Client : GOLDER ASSOCIATES
 Project : 1648232



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075E: Nitroaromatics and Ketones	QC-375644-002	----	4-Aminobiphenyl	92-67-1	35.8 %	36-102%	Recovery less than lower control limit
EP075G: Chlorinated Hydrocarbons	QC-375644-002	----	Hexachlorocyclopentadiene	77-47-4	23.9 %	24-108%	Recovery less than lower control limit

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074A: Monocyclic Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved TRIP 04	25-Feb-2016	23-Feb-2016	2	26-Feb-2016	23-Feb-2016	2

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	1	13	7.69	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103) TRIP 04	16-Feb-2016	----	----	----	25-Feb-2016	01-Mar-2016	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) TRIP 04	16-Feb-2016	26-Feb-2016	14-Aug-2016	✓	29-Feb-2016	14-Aug-2016	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) TRIP 04	16-Feb-2016	26-Feb-2016	15-Mar-2016	✓	29-Feb-2016	15-Mar-2016	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) TRIP 04	16-Feb-2016	26-Feb-2016	01-Mar-2016	✓	26-Feb-2016	06-Apr-2016	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) TRIP 04	16-Feb-2016	26-Feb-2016	01-Mar-2016	✓	26-Feb-2016	06-Apr-2016	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) TRIP 04	16-Feb-2016	26-Feb-2016	01-Mar-2016	✓	26-Feb-2016	06-Apr-2016	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP074) TRIP 04	16-Feb-2016	25-Feb-2016	23-Feb-2016	✗	26-Feb-2016	23-Feb-2016	✗
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) TRIP 04	16-Feb-2016	26-Feb-2016	01-Mar-2016	✓	26-Feb-2016	06-Apr-2016	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) TRIP 04	16-Feb-2016	26-Feb-2016	01-Mar-2016	✓	26-Feb-2016	06-Apr-2016	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) TRIP 04	16-Feb-2016	25-Feb-2016	01-Mar-2016	✓	26-Feb-2016	01-Mar-2016	✓



Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	1	13	7.69	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	100.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Page : 5 of 7
 Work Order : ES1604169
 Client : GOLDER ASSOCIATES
 Project : 1648232



Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40.
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 502)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.





Environmental

QUALITY CONTROL REPORT

Work Order	: ES1604169	Page	: 1 of 18
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Sydney
Contact	: MR JAMES DUDLEY	Contact	:
Address	: LEVEL 1, 124 PACIFIC HIGHWAY ST LEONARDS NSW, AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jdudley@golder.com.au	E-mail	:
Telephone	: +61 08 9213 7600	Telephone	: +61-2-8784 8555
Facsimile	: +61 08 9213 7611	Facsimile	: +61-2-8784 8500
Project	: 1648232	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 1648232	Date Samples Received	: 24-Feb-2016
C-O-C number	: ----	Date Analysis Commenced	: 25-Feb-2016
Sampler	: A VOWELL	Issue Date	: 02-Mar-2016
Site	: PRIXCAR-MINTO	No. of samples received	: 1
Quote number	: ----	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Celine Conceicao
Pabi Subba

Position

Senior Spectroscopist
Senior Organic Chemist

Accreditation Category

Sydney Inorganics, Smithfield, NSW
Sydney Organics, Smithfield, NSW



General Comments

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

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

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

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 375389)									
ES1604163-006	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	16.9	16.9	0.00	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 376960)									
ES1604315-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	22	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	59	54	7.53	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	30	28	4.38	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	10	16.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	120	118	2.29	0% - 20%
ES1603961-022	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	26	48.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	22	28	24.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	12	18.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	21	32	39.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	16	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	87	88	0.00	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 376959)									
ES1604315-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1603961-022	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 375640)									
ES1604169-001	TRIP 04	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 375641)									
ES1604169-001	TRIP 04	EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 375641) - continued									
ES1604169-001	TRIP 04	EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 375641)									
ES1604169-001	TRIP 04	EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 374699)							
ES1604158-001	Anonymous	EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074B: Oxygenated Compounds (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074B: Oxygenated Compounds (QC Lot: 374699) - continued									
ES1604158-001	Anonymous	EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.00	No Limit
EP074C: Sulfonated Compounds (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074D: Fumigants (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.00	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP074F: Halogenated Aromatic Compounds (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP074G: Trihalomethanes (QC Lot: 374699)									
ES1604158-001	Anonymous	EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 375643)									
ES1604169-001	TRIP 04	EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 375643)									
ES1604169-001	TRIP 04	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 375643) - continued									
ES1604169-001	TRIP 04	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075C: Phthalate Esters (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075D: Nitrosamines (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

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 Work Order : ES1604169
 Client : GOLDER ASSOCIATES
 Project : 1648232



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075E: Nitroaromatics and Ketones (QC Lot: 375644) - continued									
ES1604169-001	TRIP 04	EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.00	No Limit
EP075F: Haloethers (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<2.5	<2.5	0.00	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075H: Anilines and Benzidines (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 3,3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: 4,4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4,4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: 4,4`-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.00	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075I: Organochlorine Pesticides (QC Lot: 375644) - continued									
ES1604169-001	TRIP 04	EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 375644)									
ES1604169-001	TRIP 04	EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 374700)									
ES1604158-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 375642)									
ES1604169-001	TRIP 04	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	150	160	8.83	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 374700)									
ES1604158-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 375642)									
ES1604169-001	TRIP 04	EP071: >C16 - C34 Fraction	----	100	mg/kg	180	180	5.68	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	200	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 374700)									
ES1604158-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

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

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
	Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) LowHigh	
Result				
<5	21.7 mg/kg	97.7	86	126
<1	4.64 mg/kg	98.5	83	113
<2	43.9 mg/kg	96.4	76	128
<5	32 mg/kg	99.0	86	120
<5	40 mg/kg	97.0	80	114
<2	55 mg/kg	102	87	123
<5	60.8 mg/kg	105	80	122
<0.1	2.57 mg/kg	79.4	70	105
<0.1	1 mg/kg	83.0	62	126
<0.05	0.5 mg/kg	96.5	69	121
<0.05	0.5 mg/kg	92.0	67	115
<0.2	0.5 mg/kg	87.6	66	120
<0.05	0.5 mg/kg	90.0	69	115
<0.05	0.5 mg/kg	90.6	69	113
<0.05	0.5 mg/kg	93.1	66	116
<0.05	0.5 mg/kg	91.4	67	119
<0.05	0.5 mg/kg	97.3	69	115
<0.05	0.5 mg/kg	90.0	64	116
<0.05	0.5 mg/kg	92.5	65	117
<0.05	0.5 mg/kg	93.0	66	116
<0.05	0.5 mg/kg	97.4	62	124
<0.05	0.5 mg/kg	87.6	67	123
<0.05	0.5 mg/kg	104	56	120
<0.05	0.5 mg/kg	96.5	64	122
<0.05	0.5 mg/kg	91.2	68	116
<0.05	0.5 mg/kg	87.0	67	115
<0.05	0.5 mg/kg	89.0	62	118
<0.05	0.5 mg/kg	88.6	65	117
<0.2	0.5 mg/kg	86.5	54	130
<0.05	0.5 mg/kg	89.4	63	117



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 375641) - continued								
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	67.7	41	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	66	118
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	65	127
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	69	121
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	76	118
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	72	120
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	62	128
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	70	120
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	59	119
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	67	119
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.3	68	120
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.8	68	124
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	69	117
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	68	122
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	87.1	54	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.6	64	122
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	81.9	68	120
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	87.4	70	116
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	62	112
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 374699)								
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	106	69	117
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	106	68	118
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	110	65	117
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	108	59	125
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	108	66	122
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	110	66	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	110	69	119
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	108	67	113
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	106	69	115
EP074B: Oxygenated Compounds (QCLot: 374699)								
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	91.2	58	136
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	89.2	54	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	89.8	62	132
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	97.3	30	156
EP074C: Sulfonated Compounds (QCLot: 374699)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	101	54	126
EP074D: Fumigants (QCLot: 374699)								
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	101	63	115



Sub-Matrix: **SOIL**

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
					LCS	Low	High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP074D: Fumigants (QCLot: 374699) - continued								
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	98.4	68	124
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	105	60	126
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	74.7	51	119
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	69.4	52	114
EP074E: Halogenated Aliphatic Compounds (QCLot: 374699)								
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	74.8	62	122
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	90.3	65	117
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	97.6	65	121
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	102	64	126
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	100	67	125
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	111	54	126
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	111	65	123
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	96.9	61	125
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	88.2	53	129
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	96.5	65	125
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	103	68	122
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	110	47	141
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	76.7	59	125
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	107	49	143
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	96.3	41	141
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	105	69	121
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	97.3	55	129
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	93.6	68	118
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	67.3	30	148
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	88.4	43	129
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	92.2	20	134
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	112	67	143
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	76.1	64	120
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	98.9	54	128
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	104	70	118
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	110	49	135
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	117	43	147
EP074F: Halogenated Aromatic Compounds (QCLot: 374699)								
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	107	52	122
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	105	68	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	105	67	123
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	103	70	1147
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	106	68	116



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: <i>Compound</i>	CAS Number	LOR	Unit	Result				
EP074G: Trihalomethanes (QCLot: 374699)								
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	68.6	61	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	77.6	60	126
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	98.9	66	124
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	77.9	63	121
EP075(SIM)A: Phenolic Compounds (QCLot: 375643)								
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	78.6	60	114
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	75.9	54	114
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	84.5	66	120
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	88.6	68	126
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	87.6	70	120
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	94.1	72	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	93.5	71	123
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	73.8	54	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	98.6	67	127
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	83.2	70	116
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	33.2	10	57
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	97.0	71	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 375643)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	93.5	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	87.5	72	124
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.0	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	83.9	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	83.8	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	83.7	68	116
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.3	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.2	74	126
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	97.6	75	127
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	80.4	62	118
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	91.3	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	90.6	72	126
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	82.1	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	100	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	100	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	92.5	74	128
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 375644)								
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	54	112
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	102	58	116



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 375644) - continued								
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	90.7	50	116
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	86.0	48	106
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	106	58	114
EP075C: Phthalate Esters (QCLot: 375644)								
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	105	69	133
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	109	62	116
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	65	115
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	60	118
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	65	121
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	112	62	124
EP075D: Nitrosamines (QCLot: 375644)								
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	109	16	123
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	57	119
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	100	59	117
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.2	59	123
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	89.8	42	112
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	108	39	124
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	65	121
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	94.6	57	115
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	53	125
EP075E: Nitroaromatics and Ketones (QCLot: 375644)								
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	79.9	36	114
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	67.3	18	112
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	59	115
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	106	58	118
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	76.0	27	129
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	# 35.8	36	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	46.1	10	87
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	77.3	48	99
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.2	60	116
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	98.5	62	118
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	101	57	112
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	89.4	48	108
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	62	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.2	65	119
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.4	56	110
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	62	114



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075E: Nitroaromatics and Ketones (QCLot: 375644) - continued								
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	108	54	110
EP075F: Haloethers (QCLot: 375644)								
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.5	58	110
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.5	58	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	101	59	115
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	80.4	63	121
EP075G: Chlorinated Hydrocarbons (QCLot: 375644)								
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.3	63	108
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	91.7	57	115
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	91.1	58	112
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.5	58	116
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.7	59	111
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	59	117
EP075: Hexachlorocyclopentadiene	77-47-4	0.5	mg/kg	<0.5	1.5 mg/kg	# 23.9	24	108
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	54	116
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	65.2	39	110
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	57	109
EP075H: Anilines and Benzidines (QCLot: 375644)								
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	100	52	112
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	111	23	113
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.9	32	94
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	37.4	21	99
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	100	42	112
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	84.0	13	108
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	59	111
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.6	60	110
EP075I: Organochlorine Pesticides (QCLot: 375644)								
EP075: 4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	62	118
EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	60	116
EP075: 4,4'-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.7	46	122
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	61	115
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	95.5	63	113
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	101	65	125
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	78.4	57	113
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	106	65	115
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	102	64	118
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	64	118
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	104	63	129



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 375644) - continued									
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	100	53	117	
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.2	61	117	
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	99.6	55	115	
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.7	56	118	
EP075J: Organophosphorus Pesticides (QCLot: 375644)									
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	59	103	
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	104	63	113	
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	102	60	130	
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	106	68	134	
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	81.2	46	112	
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	108	63	119	
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	104	62	118	
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	105	60	116	
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	113	65	127	
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	105	65	115	
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	104	59	119	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 374700)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	109	68	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 375642)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	102	75	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	116	77	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	114	71	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 374700)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	111	68	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 375642)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	112	77	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	118	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	91.8	63	131	
EP080: BTEXN (QCLot: 374700)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.2	62	116	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	97.7	65	117	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	99.9	66	118	
	106-42-3								
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	95.2	63	119	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	100	68	120	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.8	67	121	



Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 376960)							
ES1603961-023	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	88.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.8	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	98.3	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 376959)							
ES1603961-022	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	90.5	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 375640)							
ES1604169-001	TRIP 04	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	85.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 375641)							
ES1604169-001	TRIP 04	EP068: 4,4'-DDT	50-29-3	2 mg/kg	88.0	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	82.1	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	87.4	70	130
		EP068: Endrin	72-20-8	2 mg/kg	91.9	70	130
		EP068: gamma-BHC	58-89-9	0.5 mg/kg	75.8	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	78.2	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 375641)							
ES1604169-001	TRIP 04	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	78.1	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	81.7	70	130
		EP068: Diazinon	333-41-5	0.5 mg/kg	82.5	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	78.8	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	80.4	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 374699)							
ES1604158-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	72.2	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	76.2	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 374699)							
ES1604158-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	82.2	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 375643)							
ES1604169-001	TRIP 04	EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	85.8	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.1	60	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	83.5	70	130

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 Work Order : ES1604169
 Client : GOLDER ASSOCIATES
 Project : 1648232



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 375643) - continued							
ES1604169-001	TRIP 04	EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	121	20	130
		EP075(SIM): Phenol	108-95-2	10 mg/kg	88.8	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 375643)							
ES1604169-001	TRIP 04	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	76.4	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.5	70	130
EP075D: Nitrosamines (QCLot: 375644)							
ES1604169-001	TRIP 04	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	83.3	50	130
EP075E: Nitroaromatics and Ketones (QCLot: 375644)							
ES1604169-001	TRIP 04	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	86.5	40	130
EP075G: Chlorinated Hydrocarbons (QCLot: 375644)							
ES1604169-001	TRIP 04	EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	88.2	50	130
		EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	84.7	60	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 374700)							
ES1604158-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	106	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 375642)							
ES1604169-001	TRIP 04	EP071: C10 - C14 Fraction	----	523 mg/kg	101	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	101	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	119	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 374700)							
ES1604158-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 375642)							
ES1604169-001	TRIP 04	EP071: >C10 - C16 Fraction	----	860 mg/kg	88.8	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	122	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	105	52	132
EP080: BTEXN (QCLot: 374700)							
ES1604158-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	80.9	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.4	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	88.8	70	130
			106-42-3				
		EP080: Naphthalene	91-20-3	2.5 mg/kg	88.2	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	91.6	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.5	70	130



Environmental

CERTIFICATE OF ANALYSIS

Work Order : **ES1604169**
Client : **GOLDER ASSOCIATES**
Contact : MR JAMES DUDLEY
Address : LEVEL 1, 124 PACIFIC HIGHWAY
 ST LEONARDS NSW, AUSTRALIA 2065
E-mail : jdudley@golder.com.au
Telephone : +61 08 9213 7600
Facsimile : +61 08 9213 7611
Project : 1648232
Order number : 1648232
C-O-C number : ----
Sampler : A VOWELL
Site : PRIXCAR-MINTO

Quote number : ----

Page : 1 of 12
Laboratory : Environmental Division Sydney
Contact :
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

E-mail :
Telephone : +61-2-8784 8555
Facsimile : +61-2-8784 8500
QC Level : NEPM 2013 B3 & ALS QC Standard
Date Samples Received : 24-Feb-2016 16:40
Date Analysis Commenced : 25-Feb-2016
Issue Date : 02-Mar-2016 13:15

No. of samples received : 1
No. of samples analysed : 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW



General Comments

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

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

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

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

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1	%	2.4	----	----	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	23	----	----	----	----
Copper	7440-50-8	5	mg/kg	87	----	----	----	----
Lead	7439-92-1	5	mg/kg	9	----	----	----	----
Nickel	7440-02-0	2	mg/kg	83	----	----	----	----
Zinc	7440-66-6	5	mg/kg	94	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time					[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	----	----	----
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	----	----	----
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	----	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	----	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	----	----	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	----	----	----
1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	----	----	----
1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	----	----	----
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----	----
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----	----
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----	----
1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----	----
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----	----
1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5	mg/kg	<5.0	----	----	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time					[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	1	mg/kg	<1.0	----	----	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1	mg/kg	<1.0	----	----	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	----	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	----	----	----
2,6-Dinitrotoluene	606-20-2	1	mg/kg	<1.0	----	----	----	----	----
2,4-Dinitrotoluene	121-14-2	1	mg/kg	<1.0	----	----	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	----	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	----	----	----	----
1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	----	----	----
EP075G: Chlorinated Hydrocarbons									
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Client sample ID

				TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued								
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	----	----
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	----	----
2-Nitroaniline	88-74-4	1	mg/kg	<1.0	----	----	----	----
3-Nitroaniline	99-09-2	1	mg/kg	<1.0	----	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	----	----
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	----	----
4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	----	----
4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	----	----
4,4'-DDT	50-29-3	1	mg/kg	<1.0	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time				[16-Feb-2016]	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604169-001	-----	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	----	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	----	----	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	----	----	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	----	----	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	----	----	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	150	----	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	150	----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	180	----	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	190	----	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	370	----	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP 04	----	----	----	----
Client sampling date / time					[16-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1604169-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		104	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		123	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		100	----	----	----	----
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%		96.9	----	----	----	----
Toluene-D8	2037-26-5	0.5	%		101	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		94.1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		111	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		100	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		88.0	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.0	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		121	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		95.6	----	----	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		72.5	----	----	----	----
Phenol-d6	13127-88-3	0.5	%		91.2	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		88.8	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		80.8	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		87.1	----	----	----	----
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%		77.8	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%		91.5	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		90.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		92.4	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		95.6	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		102	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		101	----	----	----	----

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

TRIP 04

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[16-Feb-2016]

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ES1604169-001

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Result

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Result

Result

EP080S: TPH(V)/BTEX Surrogates - Continued

Sheet _____ of _____

RL3
SNT004
Feb 2011

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES1604656	Page	: 1 of 5
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Sydney
Contact	: MR GREG STRATTON	Telephone	: +61-2-8784 8555
Project	: 1648232 CULVERSTON RD, MINTO	Date Samples Received	: 01-Mar-2016
Site	: CULVERSTON RD, MINTO	Issue Date	: 10-Mar-2016
Sampler	: N SANDY	No. of samples received	: 1
Order number	: 1648232	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Arsenic	7440-38-2	38.3 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Cadmium	7440-43-9	24.5 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Chromium	7440-47-3	29.3 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Copper	7440-50-8	18.2 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Lead	7439-92-1	25.9 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Nickel	7440-02-0	30.3 %	70-130%	Recovery less than lower data quality objective
EG020F: Dissolved Metals by ICP-MS	ES1604706--002	Anonymous	Zinc	7440-66-6	26.3 %	70-130%	Recovery less than lower data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) QC200	26-Feb-2016	----	----	----	05-Mar-2016	24-Aug-2016	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) QC200	26-Feb-2016	----	----	----	07-Mar-2016	25-Mar-2016	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066) QC200	26-Feb-2016	03-Mar-2016	04-Mar-2016	✓	07-Mar-2016	12-Apr-2016	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QC200	26-Feb-2016	03-Mar-2016	04-Mar-2016	✓	07-Mar-2016	12-Apr-2016	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QC200	26-Feb-2016	03-Mar-2016	04-Mar-2016	✓	07-Mar-2016	12-Apr-2016	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC200	26-Feb-2016	03-Mar-2016	04-Mar-2016	✓	07-Mar-2016	12-Apr-2016	✓



Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	2	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	2	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)



Environmental

QUALITY CONTROL REPORT

Work Order	: ES1604656	Page	: 1 of 6
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Sydney
Contact	: MR GREG STRATTON	Contact	:
Address	: LEVEL 1, 124 PACIFIC HIGHWAY ST LEONARDS NSW, AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: gstratton@golder.com.au	E-mail	:
Telephone	: +61 02 9478 3900	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9478 3901	Facsimile	: +61-2-8784 8500
Project	: 1648232 CULVERSTON RD, MINTO	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 1648232	Date Samples Received	: 01-Mar-2016
C-O-C number	: ----	Date Analysis Commenced	: 03-Mar-2016
Sampler	: N SANDY	Issue Date	: 10-Mar-2016
Site	: CULVERSTON RD, MINTO	No. of samples received	: 1
Quote number	: ----	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Celine Conceicao
Pabi Subba

Position

Senior Spectroscopist
Senior Organic Chemist

Accreditation Category

Sydney Inorganics, Smithfield, NSW
Sydney Organics, Smithfield, NSW



General Comments

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

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

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

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

Page : 3 of 6
 Work Order : ES1604656
 Client : GOLDER ASSOCIATES
 Project : 1648232 CULVERSTON RD, MINTO



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 384839)									
ES1604656-001	QC200	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.175	0.188	7.37	0% - 20%
ES1604804-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.004	0.003	36.1	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.008	0.011	29.3	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 384840)									
ES1604816-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES1604706-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit

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

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
		LCS	Low	High
Result				
<0.001	0.1 mg/L	105	85	114
<0.0001	0.1 mg/L	94.1	84	110
<0.001	0.1 mg/L	91.3	85	111
<0.001	0.1 mg/L	92.8	81	111
<0.001	0.1 mg/L	95.2	83	111
<0.001	0.1 mg/L	94.7	82	112
<0.005	0.1 mg/L	92.0	81	117
<0.0001	0.01 mg/L	91.8	83	105
<1	10 µg/L	80.0	62	107
<0.5	5 µg/L	104	72	122
<0.5	5 µg/L	104	67	119
<2.0	5 µg/L	94.5	60	122
<0.5	5 µg/L	90.5	66	116
<0.5	5 µg/L	95.0	65	113
<0.5	5 µg/L	104	66	120
<0.5	5 µg/L	91.1	69	117
<0.5	5 µg/L	108	71	119
<0.5	5 µg/L	103	64	120
<0.5	5 µg/L	95.6	67	117
<0.5	5 µg/L	106	66	120
<0.5	5 µg/L	96.9	60	126
<0.5	5 µg/L	106	66	122
<0.5	5 µg/L	96.9	64	116
<0.5	5 µg/L	93.5	62	124
<0.5	5 µg/L	92.7	70	112
<0.5	5 µg/L	88.6	63	113
<0.5	5 µg/L	93.8	59	123
<0.5	5 µg/L	87.3	54	114
<2.0	5 µg/L	95.0	53	127
<0.5	5 µg/L	95.6	61	121



Sub-Matrix: **WATER**

Method: Compound				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
CAS Number	LOR	Unit	Result					
EP068B: Organophosphorus Pesticides (OP) (QCLot: 382591) - continued								
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	91.6	44	130
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	95.0	63	125
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	96.8	68	124
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	98.9	69	119
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	98.0	75	1196
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	94.5	77	119
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	105	62	124
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	94.8	70	120
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	103	69	119
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	94.4	65	121
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	104	74	120
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	94.8	69	125
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	99.5	68	122
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	98.8	70	124
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	24.4	20	48
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	92.8	67	121
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	93.0	70	124
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	94.1	69	121
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	105	61	111231
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 382592)								
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	75.7	62	113
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	67.7	64	114
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	83.8	64	116
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	70.5	64	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	74.7	63	117
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	73.1	62	119
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	84.5	59	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	82.4	63	115
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	82.5	63	116
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	86.2	61	117
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	82.2	64	118
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	72.9	64	115
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	85.0	60	118
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.2	50	94
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	77.0	63	116
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	80.4	63	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 382590)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	97.6	76	116

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 Work Order : ES1604656
 Client : GOLDER ASSOCIATES
 Project : 1648232 CULVERSTON RD, MINTO



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 382590) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	94.8	83	109
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	98.9	75	113
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLOT: 382590)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	102	76	114
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	96.1	81	111
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	102	77	119

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 384839)							
ES1604706-002	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	# 38.3	70	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	# 24.5	70	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	# 29.3	70	130
		EG020A-F: Copper	7440-50-8	1 mg/L	# 18.2	70	130
		EG020A-F: Lead	7439-92-1	1 mg/L	# 25.9	70	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	# 30.3	70	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	# 26.3	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 384840)							
ES1604706-003	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	90.8	70	130



Environmental

CERTIFICATE OF ANALYSIS

Work Order	: ES1604656	Page	: 1 of 5
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Sydney
Contact	: MR GREG STRATTON	Contact	:
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Telephone	: +61 02 9478 3900	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 9478 3901	Facsimile	: +61-2-8784 8500
Project	: 1648232 CULVERSTON RD, MINTO	QC Level	: NEPM 2013 B3 & ALS QC Standard
Order number	: 1648232	Date Samples Received	: 01-Mar-2016 14:00
C-O-C number	: ----	Date Analysis Commenced	: 03-Mar-2016
Sampler	: N SANDY	Issue Date	: 10-Mar-2016 14:10
Site	: CULVERSTON RD, MINTO		
Quote number	: ----	No. of samples received	: 1
		No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Pabi Subba	Senior Organic Chemist	Sydney Organics, Smithfield, NSW



General Comments

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

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

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

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

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

- EG020A-T: Digested results for sample ID ES1604656 - #001 invalidated due to insufficient sample.
- TPH C6-C9 and BTEX could not be reported due to laboratory misplacement of volatiles vial.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				QC200	----	----	----	----
Client sampling date / time				[26-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604656-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	0.002	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	0.175	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	1	µg/L	<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDT	50-29-3	2	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				QC200	----	----	----	----
Client sampling date / time				[26-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604656-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	----	----	----	----



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				QC200	----	----	----	----
Client sampling date / time				[26-Feb-2016]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1604656-001	-----	-----	-----	-----
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	74.4	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	75.9	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	66.0	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1	%	23.8	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%	45.9	----	----	----	----
2,4,6-Tribromophenol	118-79-6	1	%	42.9	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1	%	58.4	----	----	----	----
Anthracene-d10	1719-06-8	1	%	72.9	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%	63.6	----	----	----	----



DATA VALIDATION SUMMARY SHEET (Sydney)

Project Name:	Minto	Project Number:	1648232
Primary Laboratory:	SGS	Workorder Number:	SE_149528
Secondary Laboratory:	ALS	Workorder Number:	ES1604656
Date Sampled:	26/02/2016	Sample Medium:	Water
Sample Information			
Number of Primary Samples:	4	Number of Triplicate Samples:	1
Number of Duplicate Samples:	1	Number of Other QAQC Samples:	2
Documentation and Sample Handling Information			
COC completed properly?	Y/N	Comments	
All requested analysis completed?	Y	Signed by field staff and laboratory personnel.	
Samples received intact and chilled?	Y	SGS: 0.5°C - Ice present. Intact. ALS: 18.2°C - Ice bricks present	
Samples analysed within appropriate holding times?	Y		
Sample volumes sufficient for QC analysis?	Y		
Are there non-NATA accredited methods used?	N		
Chromatograms supplied as appropriate?	NA		
Laboratory reports signed by authorised personnel?	Y		
QAQC Sample Information (Method Blank - MB, Rinsate Blank - RB, Field Blank - FB, Trip Blank - TB)			
Type	Sample ID	Comments	
MB	Method Blank	26-Feb-16	All results from SGS and ALS were below LOR
TB	TRIP BLANK	26-Feb-16	Cr = 0.4 mg/kg (0.1 more than the LOR) and Zn = 0.7 mg/kg (0.2 more than the LOR). All other results were below LOR
RB	RINSATE	26-Feb-16	All results were below LOR
Trip Spike Information			
Analyte	Spike Concentrations	Recovery Concentration	% Recovery
Comments			
No TS was used for this analyses			
Laboratory Control Spike (LCS) Analyses			
Analyte Group	Comments		
All SGS and ALS LCS results were within the laboratory control limits.			
Matrix Spike (MS) Analyses			
Analyte Group	Comments		
Zinc	SGS: MS recovery failed acceptance criteria due to matrix interference		
PAH/Phenols, Pesticides, PCBs, TRH - Semivolatile Fraction	ALS: MS quality control frequency not within specification		
All other SGS and ALS MS results were within the laboratory control limits.			
Laboratory Duplicates (LD) Analyses			
Analyte Group	Analyte(s)	Sample ID	Comments
PAH/Phenols, Pesticides, PCBs, TRH - Semivolatile Fraction			ALS: LD quality control frequency not within specification
All SGS and ALS LD results were within laboratory control limits.			
Field Duplicates (FD) Analyses			
Analyte Group	Primary ID	Duplicate ID	Comments
VOCs, VPHs, PAHs, OPPs, PCBs, Trace metals	GA-BH02	QC100	All field duplicate RPDs were within acceptable LOR based control limits or result less than LOR
Field Triplicates (FT) Analyses			
Analyte Group	Primary ID	Triplicate ID	Comments
VOCs, VPHs, PAHs, OPPs, PCBs, Trace metals	GA-BH02	QC200	All field triplicate RPDs were within acceptable LOR based control limits or result less than LOR.
Surrogate Compound Monitoring Analyses			
Analyte Group	Analyte(s)	Comments	
All surrogates were within the laboratory control limits.			
Overall Comments			
The reported concentrations of chromium and zinc in the Trip Blank is only marginal in comparison to the reported sample concentrations and is therefore, not considered to affect the overall quality of this batch.			

This batch has been validated and is considered suitable for environmental interpretive use.

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

*When concentrations are less than the LOR for both primary and duplicate/triplicate results, no RPDs are calculated

Performed By: NS
Date: 9/03/2016Checked By: MER
Date: 16/03/2016



DATA VALIDATION SUMMARY SHEET (Sydney)

Project Name:	Minto	Project Number:	1648232		
Primary Laboratory:	SGS	Workorder Number:	SE 149361/SE 149528A		
Secondary Laboratory:	ALS	Workorder Number:	ES1604169		
Date Sampled:	15/02/2016, 16/02/2016, 17/02/2016, 26/02/2016	Sample Medium:	Soil		
Sample Information					
Number of Primary Samples:	25	Number of Triplicate Samples:	1		
Number of Duplicate Samples:	1	Number of Other QAQC Samples:	3		
Documentation and Sample Handling Information					
	Y/N	Comments			
COC completed properly?	Y	Signed by field staff and laboratory personnel. Email correspondence.			
All requested analysis completed?	Y				
Samples received intact and chilled?	N	SGS: 5.2°C - Ice present. Intact. Dup01 received broken. ALS: 24.2°C - Ice bricks present. Intact.			
Samples analysed within appropriate holding times?	N	ALS: Holding time breach for the TRIP 04.			
Sample volumes sufficient for QC analysis?	Y				
Are there non-NATA accredited methods used?	N				
Chromatograms supplied as appropriate?	NA				
Laboratory reports signed by authorised personnel?	Y				
QAQC Sample Information (Method Blank - MB, Rinsate Blank - RB, Field Blank - FB, Trip Blank - TB)					
Type	Sample ID	Comments			
MB	Method Blank	16/2/2016			
TB	TRIP BLANK	16/2/2016			
TS	TRIP SPIKE	16/2/2016			
R	RINSATE_150216	17/2/2016			
Trip Spike Information					
Analyte	Spike Concentrations	Recovery Concentration	% Recovery		
Benzene		70-130%	93%		
Toulene		70-130%	80%		
Ethylbenzene		70-130%	81%		
m/p-xylene		70-130%	84%		
o-xylene		70-130%	86%		
Laboratory Control Spike (LCS) Analyses					
Analyte Group	Comments				
SVOCs, Mercury, Moisture Content, OCPs, OPPs, PAHs, PCBs, Phenols, Metals, TRHs, VOCs, VPHs,	All LCS results were within the expected recovery limit				
Matrix Spike (MS) Analyses					
Analyte Group	Comments				
Mercury	MS recovery failed the acceptance criteria due to matrix interference				
SVOCs, Moisture Content, OCPs, OPPs, PAHs, PCBs, Phenols, Metals, TRHs, VOCs, VPHs,	All other MS results were within the acceptance limit				
Laboratory Duplicates (LD) Analyses					
Analyte Group	Analyte(s)	Sample ID	Comments		
SVOCs, Mercury, Moisture Content, OCPs, OPPs, PAHs, PCBs, Phenols, Metals, TRHs, VOCs, VPHs,			All LD recoveries were within the acceptable limit		
Field Duplicates (FD) Analyses					
Analyte Group	Primary ID	Duplicate ID	Comments		
Various	GA-BH01_01 0.1	Dup04	Lead (55%), Nickel (69%), Zinc (88%) had RPD exceedances. All other field duplicate RPDs were within the acceptable LOR based control limits or results less than LOR.		
Field Triplicates (FT) Analyses					
Analyte Group	Primary ID	Triplicate ID	Comments		
Various	GA-BH01_01 0.1	Trip04	Chromium (63%), Nickel (68%) and TRH + C10-C36 (sum) (89%) had RPD exceedances. All other field triplicate RPDs were within acceptable LOR based control limits or result less than LOR.		
Surrogate Compound Monitoring Analyses					
Analyte Group	Analyte(s)	Comments			
Various		All surrogates were within the laboratory control limits.			
Overall Comments					
**SGS: There were two duplicates taken, however, Dup01 was received broken.					
SGS: Trip Spike (sample #26) was analysed for BTEX only.					
For duplicate samples, these elevated RPDs can most likely be attributed to the heterogeneity of the material tested.					
For triplicate samples, these elevated RPDs can most likely be attributed to the differences in extraction procedures between the two laboratories					

This batch has been validated and is considered suitable for environmental interpretive use.

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

*When concentrations are less than the LOR for both primary and duplicate/triplicate results, no RPDs are calculated

Performed By: Natalie Sandy
Date: 19/01/2016Checked By: MER
Date: 19/01/2016

7-10

SGS Alexandria Environmental

SE149361 COC
Received: 18-Feb-2016



STATEMENT OF QA/QC PERFORMANCE

SE149361 R1

CLIENT DETAILS

Contact Russell Jacobsen
Client GOLDER ASSOCIATES PTY LTD
Address 124 Pacific Hwy
(PO Box 1302, CROWS NEST, NSW 2065)
NSW 2065

Telephone 02 9478 3900 / 02 9478 3902
Facsimile 02 9478 3901
Email rjacobsen@golder.com.au

Project **1648232 - Prixcar - Minto**
Order Number (Not specified)
Samples 26

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE149361 R1**
Date Received 18 Feb 2016
Date Reported 16 Mar 2016

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.

This QA/QC Statement must be read in conjunction with the referenced Analytical Report.

The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	VOC's in Soil	1 item
	Volatile Petroleum Hydrocarbons in Soil	1 item
Duplicate	Total Recoverable Metals in Soil by ICPOES	1 item
Matrix Spike	Mercury in Soil	1 item

SAMPLE SUMMARY

Sample counts by matrix	22 Soil, 4 Water	Type of documentation received	COC
Date documentation received	23/2/16@12:07pm	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	5.2°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE149361 R1

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Full 8270 SVOC in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0.1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB096085	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH02_01 0.1	SE149361.003	LB096085	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH03_0.1	SE149361.006	LB096085	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB096085	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB096085	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB096085	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB096085	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB096085	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB096085	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB096085	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH01_07 3	SE149361.002	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH02_04 1	SE149361.004	LB095998	17 Feb 2016	18 Feb 2016	16 Mar 2016	26 Feb 2016	16 Mar 2016	29 Feb 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095998	17 Feb 2016	18 Feb 2016	16 Mar 2016	26 Feb 2016	16 Mar 2016	29 Feb 2016
GA-BH03_0.1	SE149361.006	LB095998	17 Feb 2016	18 Feb 2016	16 Mar 2016	26 Feb 2016	16 Mar 2016	29 Feb 2016
GA-BH03_04 1	SE149361.007	LB095998	17 Feb 2016	18 Feb 2016	16 Mar 2016	26 Feb 2016	16 Mar 2016	29 Feb 2016
GA-BH04_01 0.1	SE149361.008	LB095998	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095998	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-BH05_01 0.1	SE149361.010	LB095998	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095998	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-BH06_01 0.1	SE149361.012	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095998	13 Feb 2016	18 Feb 2016	12 Mar 2016	26 Feb 2016	12 Mar 2016	29 Feb 2016
GA-BH07_01 0.1	SE149361.014	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH08_01 0.1	SE149361.016	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095998	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095998	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095999	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-HA03-001 0.0-1	SE149361.020	LB095999	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095999	15 Feb 2016	18 Feb 2016	14 Mar 2016	26 Feb 2016	14 Mar 2016	29 Feb 2016
Dup 04	SE149361.022	LB095999	16 Feb 2016	18 Feb 2016	15 Mar 2016	26 Feb 2016	15 Mar 2016	29 Feb 2016

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref



HOLDING TIME SUMMARY

SE149361 R1

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Moisture Content (continued)

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH01_07 3	SE149361.002	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH02_04 1	SE149361.004	LB095863	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095863	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH03_0.1	SE149361.006	LB095863	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH03_04 1	SE149361.007	LB095863	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH04_01 0.1	SE149361.008	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH05_01 0.1	SE149361.010	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH06_01 0.1	SE149361.012	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095863	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH07_01 0.1	SE149361.014	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH08_01 0.1	SE149361.016	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-HA03-001 0.0-1	SE149361.020	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095863	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016
Dup 04	SE149361.022	LB095863	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	01 Mar 2016	29 Feb 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0.1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0.1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016



HOLDING TIME SUMMARY

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0_1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0_1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016



HOLDING TIME SUMMARY

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0_1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB096039	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB096039	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH03_0_1	SE149361.006	LB096039	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB096039	17 Feb 2016	18 Feb 2016	15 Aug 2016	29 Feb 2016	15 Aug 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-BH06_01 0.1	SE149361.012	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB096039	13 Feb 2016	18 Feb 2016	11 Aug 2016	29 Feb 2016	11 Aug 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB096039	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB096039	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB096040	15 Feb 2016	18 Feb 2016	13 Aug 2016	29 Feb 2016	13 Aug 2016	01 Mar 2016
Dup 04	SE149361.022	LB096040	16 Feb 2016	18 Feb 2016	14 Aug 2016	29 Feb 2016	14 Aug 2016	01 Mar 2016

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINSATE_150216	SE149361.023	LB095853	17 Feb 2016	18 Feb 2016	15 Aug 2016	25 Feb 2016	15 Aug 2016	26 Feb 2016
RINSATE_160216	SE149361.024	LB095853	17 Feb 2016	18 Feb 2016	15 Aug 2016	25 Feb 2016	15 Aug 2016	26 Feb 2016

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH01_07 3	SE149361.002	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_04 1	SE149361.004	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_0_1	SE149361.006	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH03_04 1	SE149361.007	LB095868	17 Feb 2016	18 Feb 2016	02 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_01 0.1	SE149361.008	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_01 0.1	SE149361.010	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016



HOLDING TIME SUMMARY

SE149361 R1

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH06_01 0.1	SE149361.012	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB095868	13 Feb 2016	18 Feb 2016	27 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_01 0.1	SE149361.014	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH08_01 0.1	SE149361.016	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-001 0.0-1	SE149361.020	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB095868	15 Feb 2016	18 Feb 2016	29 Feb 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016
Dup 04	SE149361.022	LB095868	16 Feb 2016	18 Feb 2016	01 Mar 2016	25 Feb 2016	05 Apr 2016	01 Mar 2016

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINSATE_150216	SE149361.023	LB095866	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	24 Feb 2016
RINSATE_160216	SE149361.024	LB095866	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	24 Feb 2016
TRIP BLANK	SE149361.025	LB095997	17 Feb 2016	18 Feb 2016	24 Feb 2016	26 Feb 2016†	06 Apr 2016	01 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH01_07 3	SE149361.002	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH02_04 1	SE149361.004	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH03_0.1	SE149361.006	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH03_04 1	SE149361.007	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH04_01 0.1	SE149361.008	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH05_01 0.1	SE149361.010	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH06_01 0.1	SE149361.012	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH06_06 2.5-2.95	SE149361.013	LB096096	13 Feb 2016	18 Feb 2016	27 Feb 2016	29 Feb 2016†	09 Apr 2016	29 Feb 2016
GA-BH07_01 0.1	SE149361.014	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH08_01 0.1	SE149361.016	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA03-001 0.0-1	SE149361.020	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
Dup 04	SE149361.022	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINSATE_150216	SE149361.023	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	25 Feb 2016
RINSATE_160216	SE149361.024	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	25 Feb 2016
TRIP BLANK	SE149361.025	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	25 Feb 2016
TRIP SPIKE	SE149361.026	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	25 Feb 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH01_01 0.1	SE149361.001	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH01_07 3	SE149361.002	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH02_04 1	SE149361.004	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH02_06 3.5-3.95	SE149361.005	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH03_0.1	SE149361.006	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH03_04 1	SE149361.007	LB096096	17 Feb 2016	18 Feb 2016	02 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH04_01 0.1	SE149361.008	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH04_06 3.5-3.95	SE149361.009	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH05_01 0.1	SE149361.010	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH05_05 3.5-3.95	SE149361.011	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH06_01 0.1	SE149361.012	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH06_06 2.5-2.95	SE149361.013	LB096096	13 Feb 2016	18 Feb 2016	27 Feb 2016	29 Feb 2016†	09 Apr 2016	29 Feb 2016
GA-BH07_01 0.1	SE149361.014	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH07_05 2.0-2.45	SE149361.015	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH08_01 0.1	SE149361.016	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-BH-08_07 5.0-5.45	SE149361.017	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA01-001 0.0-0.1	SE149361.018	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA01-001 0.5-0.6	SE149361.019	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA03-001 0-0.1	SE149361.020	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
GA-HA03-002 0.9-1.0	SE149361.021	LB096096	15 Feb 2016	18 Feb 2016	29 Feb 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016
Dup 04	SE149361.022	LB096096	16 Feb 2016	18 Feb 2016	01 Mar 2016	29 Feb 2016	09 Apr 2016	29 Feb 2016

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINSATE_150216	SE149361.023	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	26 Feb 2016
RINSATE_160216	SE149361.024	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	26 Feb 2016
TRIP BLANK	SE149361.025	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	26 Feb 2016
TRIP SPIKE	SE149361.026	LB095862	17 Feb 2016	18 Feb 2016	24 Feb 2016	23 Feb 2016	03 Apr 2016	29 Feb 2016

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Full 8270 SVOC in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	74
	GA-BH02_04 1	SE149361.004	%	70 - 130%	70
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	73
	GA-BH03_0.1	SE149361.006	%	70 - 130%	77
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	72
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	72
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	75
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	70
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	72
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	71
2-fluorobiphenyl (Surrogate)	Dup 04	SE149361.022	%	70 - 130%	75
	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	114
	GA-BH02_04 1	SE149361.004	%	70 - 130%	118
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	116
	GA-BH03_0.1	SE149361.006	%	70 - 130%	116
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	116
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	118
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	102
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	98
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	94
	Dup 04	SE149361.022	%	70 - 130%	98
	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	110
	GA-BH02_04 1	SE149361.004	%	70 - 130%	116
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	116
	GA-BH03_0.1	SE149361.006	%	70 - 130%	116
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	106
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	110
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	106
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	88
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	90
	Dup 04	SE149361.022	%	70 - 130%	92
	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	120
	GA-BH02_04 1	SE149361.004	%	70 - 130%	130
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	128
	GA-BH03_0.1	SE149361.006	%	70 - 130%	124
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	128
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	130
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	112
d5-phenol (Surrogate)	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	106
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	100
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	106
	Dup 04	SE149361.022	%	70 - 130%	124
	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	102
	GA-BH02_04 1	SE149361.004	%	70 - 130%	86
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	103
	GA-BH03_0.1	SE149361.006	%	70 - 130%	114
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	97
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	87
OC Pesticides in Soil	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	106
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	86
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	85
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	89
	Dup 04	SE149361.022	%	70 - 130%	100
	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	87
	GA-BH01_07 3	SE149361.002	%	60 - 130%	88
	GA-BH02_04 1	SE149361.004	%	60 - 130%	81
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	103
	GA-BH03_0.1	SE149361.006	%	70 - 130%	114

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	87
	GA-BH01_07 3	SE149361.002	%	60 - 130%	88
	GA-BH02_04 1	SE149361.004	%	60 - 130%	81

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	92
	GA-BH03_0.1	SE149361.006	%	60 - 130%	87
	GA-BH03_04 1	SE149361.007	%	60 - 130%	83
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	95
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	86
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	87
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	91
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	86
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	86
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	86
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	91
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	91
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	89
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	89
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	83
	Dup 04	SE149361.022	%	60 - 130%	85

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	92
	GA-BH01_07 3	SE149361.002	%	60 - 130%	92
	GA-BH02_04 1	SE149361.004	%	60 - 130%	88
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	82
	GA-BH03_0.1	SE149361.006	%	60 - 130%	96
	GA-BH03_04 1	SE149361.007	%	60 - 130%	94
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	92
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	88
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	92
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	84
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	88
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	80
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	76
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	90
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	90
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	84
d14-p-terphenyl (Surrogate)	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	86
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	94
	Dup 04	SE149361.022	%	60 - 130%	90
	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	112
	GA-BH01_07 3	SE149361.002	%	60 - 130%	130
	GA-BH02_04 1	SE149361.004	%	60 - 130%	118
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	118
	GA-BH03_0.1	SE149361.006	%	60 - 130%	126
	GA-BH03_04 1	SE149361.007	%	60 - 130%	124
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	124
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	126
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	116
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	122
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	122
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	122
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	110
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	124
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	122
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	126
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	114
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	124
	Dup 04	SE149361.022	%	60 - 130%	114

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	92
	GA-BH01_07 3	SE149361.002	%	70 - 130%	92
	GA-BH02_04 1	SE149361.004	%	70 - 130%	88
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	82
	GA-BH03_0.1	SE149361.006	%	70 - 130%	96
	GA-BH03_04 1	SE149361.007	%	70 - 130%	94
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	92
	GA-BH04_06 3.5-3.95	SE149361.009	%	70 - 130%	88
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	92
	GA-BH05_05 3.5-3.95	SE149361.011	%	70 - 130%	84
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	88
	GA-BH06_06 2.5-2.95	SE149361.013	%	70 - 130%	80
	GA-BH07_01 0.1	SE149361.014	%	70 - 130%	76
	GA-BH07_05 2.0-2.45	SE149361.015	%	70 - 130%	90
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	90
	GA-BH-08_07 5.0-5.45	SE149361.017	%	70 - 130%	84
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	86
	GA-HA01-001 0.5-0.6	SE149361.019	%	70 - 130%	88
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	94
	GA-HA03-002 0.9-1.0	SE149361.021	%	70 - 130%	104
	Dup 04	SE149361.022	%	70 - 130%	90
d14-p-terphenyl (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	112
	GA-BH01_07 3	SE149361.002	%	70 - 130%	130
	GA-BH02_04 1	SE149361.004	%	70 - 130%	118
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	118
	GA-BH03_0.1	SE149361.006	%	70 - 130%	126
	GA-BH03_04 1	SE149361.007	%	70 - 130%	124
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	124
	GA-BH04_06 3.5-3.95	SE149361.009	%	70 - 130%	126
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	116
	GA-BH05_05 3.5-3.95	SE149361.011	%	70 - 130%	122
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	122
	GA-BH06_06 2.5-2.95	SE149361.013	%	70 - 130%	122
	GA-BH07_01 0.1	SE149361.014	%	70 - 130%	110
	GA-BH07_05 2.0-2.45	SE149361.015	%	70 - 130%	124
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	122
	GA-BH-08_07 5.0-5.45	SE149361.017	%	70 - 130%	126
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	114
	GA-HA01-001 0.5-0.6	SE149361.019	%	70 - 130%	124
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	124
	GA-HA03-002 0.9-1.0	SE149361.021	%	70 - 130%	116
	Dup 04	SE149361.022	%	70 - 130%	114
d5-nitrobenzene (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	90
	GA-BH01_07 3	SE149361.002	%	70 - 130%	100
	GA-BH02_04 1	SE149361.004	%	70 - 130%	90
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	88
	GA-BH03_0.1	SE149361.006	%	70 - 130%	98
	GA-BH03_04 1	SE149361.007	%	70 - 130%	96
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	96
	GA-BH04_06 3.5-3.95	SE149361.009	%	70 - 130%	90
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	94
	GA-BH05_05 3.5-3.95	SE149361.011	%	70 - 130%	88
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	94
	GA-BH06_06 2.5-2.95	SE149361.013	%	70 - 130%	86
	GA-BH07_01 0.1	SE149361.014	%	70 - 130%	76
	GA-BH07_05 2.0-2.45	SE149361.015	%	70 - 130%	92
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	88
	GA-BH-08_07 5.0-5.45	SE149361.017	%	70 - 130%	86
	GA-HA01-001 0.0-0.1	SE149361.018	%	70 - 130%	86
	GA-HA01-001 0.5-0.6	SE149361.019	%	70 - 130%	90
	GA-HA03-001 0.0-0.1	SE149361.020	%	70 - 130%	96

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	GA-HA03-002 0.9-1.0	SE149361.021	%	70 - 130%	94
	Dup 04	SE149361.022	%	70 - 130%	98

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	87
	GA-BH01_07 3	SE149361.002	%	60 - 130%	88
	GA-BH02_04 1	SE149361.004	%	60 - 130%	81
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	92
	GA-BH03_01	SE149361.006	%	60 - 130%	87
	GA-BH03_04 1	SE149361.007	%	60 - 130%	83
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	95
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	86
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	87
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	91
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	86
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	86
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	86
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	91
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	91
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	89
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	89
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	83
	Dup 04	SE149361.022	%	60 - 130%	85

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	70 - 130%	74
	GA-BH01_07 3	SE149361.002	%	70 - 130%	79
	GA-BH02_04 1	SE149361.004	%	70 - 130%	70
	GA-BH02_06 3.5-3.95	SE149361.005	%	70 - 130%	73
	GA-BH03_01	SE149361.006	%	70 - 130%	77
	GA-BH03_04 1	SE149361.007	%	70 - 130%	72
	GA-BH04_01 0.1	SE149361.008	%	70 - 130%	72
	GA-BH04_06 3.5-3.95	SE149361.009	%	70 - 130%	75
	GA-BH05_01 0.1	SE149361.010	%	70 - 130%	72
	GA-BH05_05 3.5-3.95	SE149361.011	%	70 - 130%	71
	GA-BH06_01 0.1	SE149361.012	%	70 - 130%	75
	GA-BH06_06 2.5-2.95	SE149361.013	%	70 - 130%	71
	GA-BH07_01 0.1	SE149361.014	%	70 - 130%	71
	GA-BH07_05 2.0-2.45	SE149361.015	%	70 - 130%	71
	GA-BH08_01 0.1	SE149361.016	%	70 - 130%	70
	GA-BH-08_07 5.0-5.45	SE149361.017	%	70 - 130%	72
	Dup 04	SE149361.022	%	70 - 130%	75
d5-phenol (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	50 - 130%	102
	GA-BH01_07 3	SE149361.002	%	50 - 130%	110
	GA-BH02_04 1	SE149361.004	%	50 - 130%	86
	GA-BH02_06 3.5-3.95	SE149361.005	%	50 - 130%	103
	GA-BH03_01	SE149361.006	%	50 - 130%	114
	GA-BH03_04 1	SE149361.007	%	50 - 130%	90
	GA-BH04_01 0.1	SE149361.008	%	50 - 130%	97
	GA-BH04_06 3.5-3.95	SE149361.009	%	50 - 130%	110
	GA-BH05_01 0.1	SE149361.010	%	50 - 130%	87
	GA-BH05_05 3.5-3.95	SE149361.011	%	50 - 130%	82
	GA-BH06_01 0.1	SE149361.012	%	50 - 130%	106
	GA-BH06_06 2.5-2.95	SE149361.013	%	50 - 130%	96
	GA-BH07_01 0.1	SE149361.014	%	50 - 130%	96
	GA-BH07_05 2.0-2.45	SE149361.015	%	50 - 130%	94
	GA-BH08_01 0.1	SE149361.016	%	50 - 130%	86
	GA-BH-08_07 5.0-5.45	SE149361.017	%	50 - 130%	89
	Dup 04	SE149361.022	%	50 - 130%	100

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	101
	GA-BH01_07 3	SE149361.002	%	60 - 130%	93
	GA-BH02_04 1	SE149361.004	%	60 - 130%	89
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	84
	GA-BH03_0.1	SE149361.006	%	60 - 130%	100
	GA-BH03_04 1	SE149361.007	%	60 - 130%	90
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	91
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	94
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	95
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	97
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	87
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	116
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	97
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	88
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	86
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	97
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	102
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	98
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	93
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	82
	Dup 04	SE149361.022	%	60 - 130%	93
d4-1,2-dichloroethane (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	114
	GA-BH01_07 3	SE149361.002	%	60 - 130%	102
	GA-BH02_04 1	SE149361.004	%	60 - 130%	97
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	98
	GA-BH03_0.1	SE149361.006	%	60 - 130%	118
	GA-BH03_04 1	SE149361.007	%	60 - 130%	106
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	113
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	111
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	114
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	119
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	106
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	122
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	121
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	102
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	112
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	117
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	125
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	110
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	109
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	98
	Dup 04	SE149361.022	%	60 - 130%	114
d8-toluene (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	93
	GA-BH01_07 3	SE149361.002	%	60 - 130%	96
	GA-BH02_04 1	SE149361.004	%	60 - 130%	81
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	75
	GA-BH03_0.1	SE149361.006	%	60 - 130%	93
	GA-BH03_04 1	SE149361.007	%	60 - 130%	98
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	85
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	104
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	87
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	111
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	81
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	127
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	107
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	98
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	76
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	109
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	95
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	103
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	83

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	84
	Dup 04	SE149361.022	%	60 - 130%	87
Dibromofluoromethane (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	102
	GA-BH01_07 3	SE149361.002	%	60 - 130%	89
	GA-BH02_04 1	SE149361.004	%	60 - 130%	86
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	85
	GA-BH03_0.1	SE149361.006	%	60 - 130%	102
	GA-BH03_04 1	SE149361.007	%	60 - 130%	88
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	97
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	91
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	97
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	97
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	89
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	110
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	96
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	84
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	88
	GA-BH08_07 5.0-5.45	SE149361.017	%	60 - 130%	96
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	106
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	89
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	92
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	75
	Dup 04	SE149361.022	%	60 - 130%	95

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	89
	RINSATE_160216	SE149361.024	%	40 - 130%	87
	TRIP SPIKE	SE149361.026	%	40 - 130%	113
d4-1,2-dichloroethane (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	123
	RINSATE_160216	SE149361.024	%	40 - 130%	126
	TRIP SPIKE	SE149361.026	%	40 - 130%	115
d8-toluene (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	107
	RINSATE_160216	SE149361.024	%	40 - 130%	107
	TRIP SPIKE	SE149361.026	%	40 - 130%	89
Dibromofluoromethane (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	124
	RINSATE_160216	SE149361.024	%	40 - 130%	126
	TRIP SPIKE	SE149361.026	%	40 - 130%	110

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	107
	GA-BH01_07 3	SE149361.002	%	60 - 130%	93
	GA-BH02_04 1	SE149361.004	%	60 - 130%	94
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	87
	GA-BH03_0.1	SE149361.006	%	60 - 130%	107
	GA-BH03_04 1	SE149361.007	%	60 - 130%	90
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	94
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	94
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	96
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	97
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	95
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	116
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	97
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	88
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	94
	GA-BH08_07 5.0-5.45	SE149361.017	%	60 - 130%	97
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	107
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	98
	GA-HA03-001 0-0.1	SE149361.020	%	60 - 130%	95
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	82
	Dup 04	SE149361.022	%	60 - 130%	96

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons In Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d4-1,2-dichloroethane (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	115
	GA-BH01_07 3	SE149361.002	%	60 - 130%	102
	GA-BH02_04 1	SE149361.004	%	60 - 130%	99
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	99
	GA-BH03_0.1	SE149361.006	%	60 - 130%	120
	GA-BH03_04 1	SE149361.007	%	60 - 130%	106
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	114
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	111
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	115
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	119
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	107
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	122
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	121
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	102
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	113
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	117
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	127
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	110
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	111
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	98
	Dup 04	SE149361.022	%	60 - 130%	115
d8-toluene (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	110
	GA-BH01_07 3	SE149361.002	%	60 - 130%	96
	GA-BH02_04 1	SE149361.004	%	60 - 130%	94
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	92
	GA-BH03_0.1	SE149361.006	%	60 - 130%	114
	GA-BH03_04 1	SE149361.007	%	60 - 130%	98
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	107
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	104
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	110
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	111
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	101
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	127
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	107
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	98
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	98
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	109
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	120
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	103
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	105
	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	85
	Dup 04	SE149361.022	%	60 - 130%	112
Dibromofluoromethane (Surrogate)	GA-BH01_01 0.1	SE149361.001	%	60 - 130%	101
	GA-BH01_07 3	SE149361.002	%	60 - 130%	89
	GA-BH02_04 1	SE149361.004	%	60 - 130%	86
	GA-BH02_06 3.5-3.95	SE149361.005	%	60 - 130%	84
	GA-BH03_0.1	SE149361.006	%	60 - 130%	101
	GA-BH03_04 1	SE149361.007	%	60 - 130%	88
	GA-BH04_01 0.1	SE149361.008	%	60 - 130%	96
	GA-BH04_06 3.5-3.95	SE149361.009	%	60 - 130%	91
	GA-BH05_01 0.1	SE149361.010	%	60 - 130%	96
	GA-BH05_05 3.5-3.95	SE149361.011	%	60 - 130%	97
	GA-BH06_01 0.1	SE149361.012	%	60 - 130%	88
	GA-BH06_06 2.5-2.95	SE149361.013	%	60 - 130%	110
	GA-BH07_01 0.1	SE149361.014	%	60 - 130%	96
	GA-BH07_05 2.0-2.45	SE149361.015	%	60 - 130%	84
	GA-BH08_01 0.1	SE149361.016	%	60 - 130%	87
	GA-BH-08_07 5.0-5.45	SE149361.017	%	60 - 130%	96
	GA-HA01-001 0.0-0.1	SE149361.018	%	60 - 130%	105
	GA-HA01-001 0.5-0.6	SE149361.019	%	60 - 130%	89
	GA-HA03-001 0.0-0.1	SE149361.020	%	60 - 130%	91

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Dibromofluoromethane (Surrogate)	GA-HA03-002 0.9-1.0	SE149361.021	%	60 - 130%	75
	Dup 04	SE149361.022	%	60 - 130%	94

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	89
	RINSATE_160216	SE149361.024	%	40 - 130%	87
	TRIP BLANK	SE149361.025	%	40 - 130%	91
d4-1,2-dichloroethane (Surrogate)	RINSATE_150216	SE149361.023	%	60 - 130%	123
	RINSATE_160216	SE149361.024	%	60 - 130%	126
	TRIP BLANK	SE149361.025	%	60 - 130%	125
d8-toluene (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	107
	RINSATE_160216	SE149361.024	%	40 - 130%	107
	TRIP BLANK	SE149361.025	%	40 - 130%	101
Dibromofluoromethane (Surrogate)	RINSATE_150216	SE149361.023	%	40 - 130%	124
	RINSATE_160216	SE149361.024	%	40 - 130%	126
	TRIP BLANK	SE149361.025	%	40 - 130%	124

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC In Soil

Method: ME-(AU)-ENVJAN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	01-PAHs	Acenaphthene	mg/kg	0.1
		Acenaphthylene	mg/kg	0.1
		Anthracene	mg/kg	0.1
		Benzo(a)anthracene	mg/kg	0.1
		Benzo(b&j&k)fluoranthene	mg/kg	0.2
		Benzo(ghi)perylene	mg/kg	0.1
		Benzo(a)pyrene	mg/kg	0.1
		Chrysene	mg/kg	0.1
		Dibenzo(ah)anthracene	mg/kg	0.1
		Fluoranthene	mg/kg	0.1
		Fluorene	mg/kg	0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1
		1-methylnaphthalene	mg/kg	0.1
		2-methylnaphthalene	mg/kg	0.1
		Naphthalene	mg/kg	0.1
		Phenanthrene	mg/kg	0.1
		Pyrene	mg/kg	0.1
		2-acetylamino fluorene	mg/kg	0.5
		7,12-dimethyl-benz(a)anthracene	mg/kg	0.5
		3-methylcholanthrene	mg/kg	0.5
	02-OCs	Aldrin	mg/kg	0.1
		Alpha-BHC	mg/kg	0.1
		Beta-BHC	mg/kg	0.5
		Delta-BHC	mg/kg	0.1
		Gamma-BHC (Lindane)	mg/kg	0.1
		p,p-DDD	mg/kg	0.1
		p,p-DDE	mg/kg	0.1
		p,p-DDT	mg/kg	0.1
		Dieldrin	mg/kg	0.2
		Alpha-endosulfan	mg/kg	0.2
		Beta-endosulfan	mg/kg	0.2
		Endosulfan sulphate	mg/kg	0.1
		Endrin	mg/kg	0.2
		Heptachlor	mg/kg	0.1
		Heptachlor epoxide	mg/kg	0.1
		Isodrin	mg/kg	0.1
		Methoxychlor	mg/kg	0.1
		Mirex	mg/kg	0.1
		Alpha-chlordane	mg/kg	0.1
		Gamma-chlordane	mg/kg	0.1
	03-OPs	Endrin ketone	mg/kg	0.1
		Azinphos-methyl (Guthion)	mg/kg	0.2
		Bromophos ethyl	mg/kg	0.2
		Carbophenothion	mg/kg	0.5
		Chlorfenvinphos-cis	mg/kg	2
		Chlorfenvinphos-trans	mg/kg	0.5
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2
		Chlorpyrifos-methyl	mg/kg	0.5
		Co-Ral (Coumaphos)	mg/kg	0.5
		Diazinon (Dimpylate)	mg/kg	0.5
		Dichlorvos	mg/kg	0.5
		Demeton-S-methyl	mg/kg	0.5
		Dimethoate	mg/kg	0.5
		Disulfoton (Di-syston)	mg/kg	0.5
		EPN*	mg/kg	0.5
		Ethion	mg/kg	0.2
		Ethoprophos (ethoprop or propfos)	mg/kg	0.5
		Famphur (Famophos)	mg/kg	0.5
		Fenamiphos (Phenamiphos)	mg/kg	0.5
		Fenchlorophos (Ronneil)	mg/kg	0.5
		Fenitrothion	mg/kg	0.2



METHOD BLANKS

SE149361 R1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC In Soil (continued)

Method: ME-(AU)-ENVJAN420

Sample Number		Parameter	Units	LOR	Result	
LB095868.001	03-OPs	Fenthion	mg/kg	0.5	<0.5	
		Malathion (Maldison)	mg/kg	0.2	<0.2	
		Methidathion	mg/kg	0.5	<0.5	
		Mevinphos-cis/trans	mg/kg	1	<1	
		o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5	
		Parathion ethyl (Parathion)	mg/kg	0.2	<0.2	
		Parathion methyl	mg/kg	0.5	<0.5	
		Phorate	mg/kg	0.5	<0.5	
		Pirimiphos-ethyl	mg/kg	0.5	<0.5	
		Pirimiphos-methyl	mg/kg	0.5	<0.5	
		Profenofos	mg/kg	0.5	<0.5	
		Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5	
		Sulfotepp	mg/kg	0.5	<0.5	
		Tetrachlorvinphos (Stiropfos)*	mg/kg	0.5	<0.5	
04-PCB UPAC(7)	PCB Congener C28	mg/kg	0.1	<0.1		
Congeners	PCB Congener C52	mg/kg	0.1	<0.1		
	PCB Congener C101	mg/kg	0.1	<0.1		
	PCB Congener C118	mg/kg	0.1	<0.1		
	PCB Congener C138	mg/kg	0.1	<0.1		
	PCB Congener C153	mg/kg	0.1	<0.1		
	PCB Congener C180	mg/kg	0.1	<0.1		
05-SVCH (CI Benzenes, Hydrocarbons & VOCs)	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1		
	1,2-dichlorobenzene	mg/kg	0.5	<0.5		
	1,3-dichlorobenzene	mg/kg	0.5	<0.5		
	1,4-dichlorobenzene	mg/kg	0.5	<0.5		
	Hexachlorobutadiene	mg/kg	0.5	<0.5		
	Hexachlorocyclopentadiene	mg/kg	1	<1		
	Hexachloroethane	mg/kg	0.5	<0.5		
	Hexachloropropene	mg/kg	0.5	<0.5		
	Pentachlorobenzene	mg/kg	0.5	<0.5		
	Pentachloroethane	mg/kg	0.5	<0.5		
	1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1		
	1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5		
	1/2-Chloronaphthalene	mg/kg	1	<1		
		1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	
06-Phthalates	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5		
	Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5		
	Butyl benzyl phthalate	mg/kg	0.5	<0.5		
	Di-n-butyl phthalate	mg/kg	0.5	<0.5		
	Diethyl phthalate	mg/kg	0.5	<0.5		
	Dimethyl phthalate	mg/kg	0.5	<0.5		
	Diocetyl phthalate	mg/kg	0.5	<0.5		
07-Carbamates	Carbofuran	mg/kg	0.5	<0.5		
	Carbaryl	mg/kg	0.5	<0.5		
08-Herbicides (normal)	Trifluralin	mg/kg	0.5	<0.5		
09-Nitrosamines	N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5		
	N-nitroso-diethylamine (NDEA)	mg/kg	1	<1		
	N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5		
	N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5		
	N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5		
	N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1		
		4-amino biphenyl	mg/kg	1	<1	
10-Nitroaromatics and Ketones	Acetophenone	mg/kg	0.5	<0.5		
	1,3-dinitrobenzene	mg/kg	1	<1		
	2,4-dinitrotoluene	mg/kg	0.5	<0.5		
	2,6-dinitrotoluene	mg/kg	0.5	<0.5		
	Isophorone	mg/kg	0.5	<0.5		
	Nitrobenzene	mg/kg	0.5	<0.5		
	p-(dimethylamino) azobenzene	mg/kg	1	<1		
	Phenacetin	mg/kg	1	<1		
		Pentachloronitrobenzene (quintozene)	mg/kg	0.5	<0.5	

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC In Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	11-Anilines and Amines	Aniline	mg/kg	3
		4-chloroaniline	mg/kg	1
		2-nitroaniline	mg/kg	1
		3-nitroaniline	mg/kg	1
		4-nitroaniline	mg/kg	1
		Diphenylamine	mg/kg	0.5
		o-toluidine	mg/kg	1
		5-nitro-o-toluidine	mg/kg	1
		1-naphthylamine	mg/kg	1
		2-naphthylamine	mg/kg	1
	12-Haloethers	Bis(2-chloroethoxy) methane	mg/kg	0.5
		Bis(2-chloroethyl) ether	mg/kg	0.5
		Bis(2-chloroisopropyl) ether	mg/kg	0.5
		4-chlorophenyl phenyl ether	mg/kg	0.5
	13-Other SVOCs	4-bromophenyl phenyl ether	mg/kg	0.5
		Methyl methanesulfonate	mg/kg	1
		Ethyl methanesulfonate	mg/kg	1
		Dibenzofuran	mg/kg	0.5
		Benzyl alcohol	mg/kg	1
		Safrole	mg/kg	0.5
		Isosafrole Isomer 1	mg/kg	1
		Isosafrole Isomer 2	mg/kg	1
		1,4-naphthoquinone	mg/kg	0.5
		Thionazin	mg/kg	1
	14-Speciated Routine Phenols	3/4-methyl phenol (m/p-cresol)	mg/kg	1
		2-methyl phenol (o-cresol)	mg/kg	0.5
		2,6-dichlorophenol	mg/kg	0.5
		2,4,5-trichlorophenol	mg/kg	0.5
		4-chloro-3-methylphenol	mg/kg	2
		2-chlorophenol	mg/kg	0.5
		2,4-dichlorophenol	mg/kg	0.5
		2,4-dimethylphenol	mg/kg	0.5
		2-nitrophenol	mg/kg	0.5
		Phenol	mg/kg	0.5
		2,4,6-trichlorophenol	mg/kg	0.5
		Pentachlorophenol	mg/kg	0.5
		4-nitrophenol	mg/kg	1
	Surrogates	d5-phenol (Surrogate)	%	-
		d5-nitrobenzene (Surrogate)	%	-
		2-fluorobiphenyl (Surrogate)	%	-
		2,4,6-tribromophenol (Surrogate)	%	-
		d14-p-terphenyl (Surrogate)	%	-

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB095998.001	Mercury	mg/kg	0.01	<0.01
LB095999.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	98

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	98
Surrogates	d14-p-terphenyl (Surrogate)	%	-	130

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	104
	2-fluorobiphenyl (Surrogate)	%	-	98
	d14-p-terphenyl (Surrogate)	%	-	130

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2



METHOD BLANKS

SE149361 R1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	%	-	98

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB095868.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5
	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	4-chloro-3-methylphenol	mg/kg	2	<2
Surrogates	2,4,6-Tribromophenol (Surrogate)	%	-	93
	d5-phenol (Surrogate)	%	-	94

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB096039.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5
LB096040.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB095853.001	Lead, Pb	µg/L	1	<1

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB095868.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB095866.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200



METHOD BLANKS

SE149361 R1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

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VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096096.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
		1,2,3-trichloropropane	mg/kg	0.1	<0.1
		trans-1,4-dichloro-2-butene	mg/kg	1	<1
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
		Hexachlorobutadiene	mg/kg	0.1	<0.1
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1
		Bromobenzene	mg/kg	0.1	<0.1
		2-chlorotoluene	mg/kg	0.1	<0.1
		4-chlorotoluene	mg/kg	0.1	<0.1
		1,3-dichlorobenzene	mg/kg	0.1	<0.1
		1,4-dichlorobenzene	mg/kg	0.1	<0.1
		1,2-dichlorobenzene	mg/kg	0.1	<0.1
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
		n-propylbenzene	mg/kg	0.1	<0.1
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
		tert-butylbenzene	mg/kg	0.1	<0.1
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
		sec-butylbenzene	mg/kg	0.1	<0.1
		p-isopropyltoluene	mg/kg	0.1	<0.1
		n-butylbenzene	mg/kg	0.1	<0.1
	Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
		2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10

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Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096096.001	Oxygenated Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
		Vinyl acetate	mg/kg	10	<10
		MEK (2-butanone)	mg/kg	10	<10
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
		2-hexanone (MBK)	mg/kg	5	<5
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	95
		d4-1,2-dichloroethane (Surrogate)	%	-	97
		d8-toluene (Surrogate)	%	-	82
		Bromofluorobenzene (Surrogate)	%	-	87
	Totals	Total BTEX	mg/kg	0.6	<0.6
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1
		Bromodichloromethane	mg/kg	0.1	<0.1
		Chlorodibromomethane	mg/kg	0.1	<0.1
		Bromoform	mg/kg	0.1	<0.1

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB095862.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene	µg/L	0.5	<0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	118
		d4-1,2-dichloroethane (Surrogate)	%	-	118
		d8-toluene (Surrogate)	%	-	100
		Bromofluorobenzene (Surrogate)	%	-	90

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB096096.001	Surrogates	TRH C6-C9	mg/kg	20	<20
		Dibromofluoromethane (Surrogate)	%	-	95
		d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	96

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB095862.001	Surrogates	TRH C6-C9	µg/L	40	<40
		Dibromofluoromethane (Surrogate)	%	-	118
		d4-1,2-dichloroethane (Surrogate)	%	-	118
		d8-toluene (Surrogate)	%	-	100
		Bromofluorobenzene (Surrogate)	%	-	90

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Full 8270 SVOC in Soil

Method: ME-(AU)-ENVJAN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149361.020	LB095868.033	01-PAHs	Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0	
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0	
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
			Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	200	0	
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0	
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0	
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0	
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0	
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0	
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
			Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0	
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0	
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0	
			2-acetylaminofluorene	mg/kg	0.5	<0.5	<0.5	200	0	
			7,12-dimethyl-benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	200	0	
			3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5	200	0	
			02-OCs	Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
				Alpha-BHC	mg/kg	0.1	<0.1	<0.1	200	0
				Beta-BHC	mg/kg	0.5	<0.5	<0.5	200	0
				Delta-BHC	mg/kg	0.1	<0.1	<0.1	200	0
				Gamma-BHC (Lindane)	mg/kg	0.1	<0.1	<0.1	200	0
				p,p-DDD	mg/kg	0.1	<0.1	<0.1	200	0
				p,p-DDE	mg/kg	0.1	<0.1	<0.1	163	0
				p,p-DDT	mg/kg	0.1	<0.1	<0.1	200	0
				Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
				Alpha-endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Beta-endosulfan		mg/kg	0.2	<0.2	<0.2	200	0	
		Endosulfan sulphate		mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin		mg/kg	0.2	<0.2	<0.2	200	0	
		Heptachlor		mg/kg	0.1	<0.1	<0.1	200	0	
		Heptachlor epoxide		mg/kg	0.1	<0.1	<0.1	200	0	
		Isodrin		mg/kg	0.1	<0.1	<0.1	200	0	
		Methoxychlor		mg/kg	0.1	<0.1	<0.1	200	0	
		Mirex		mg/kg	0.1	<0.1	<0.1	200	0	
		Alpha-chlordane		mg/kg	0.1	<0.1	<0.1	200	0	
		Gamma-chlordane		mg/kg	0.1	<0.1	<0.1	200	0	
		Endrin ketone		mg/kg	0.1	<0.1	<0.1	200	0	
		03-OPs		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
				Bromophos ethyl	mg/kg	0.2	<0.2	<0.2	200	0
				Carbophenothion	mg/kg	0.5	<0.5	<0.5	200	0
			Chlorfenvinphos-cis	mg/kg	2	<2	<2	200	0	
			Chlorfenvinphos-trans	mg/kg	0.5	<0.5	<0.5	200	0	
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0	
			Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	200	0	
			Co-Ral (Coumaphos)	mg/kg	0.5	<0.5	<0.5	200	0	
			Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0	
			Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0	
			Demeton-S-methyl	mg/kg	0.5	<0.5	<0.5	200	0	
			Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0	
			Disulfoton (Di-syston)	mg/kg	0.5	<0.5	<0.5	200	0	
			EPN*	mg/kg	0.5	<0.5	<0.5	200	0	
			Ethion	mg/kg	0.2	<0.2	<0.2	200	0	
			Ethoprophos (ethoprop or prophos)	mg/kg	0.5	<0.5	<0.5	200	0	
			Famphur (Famophos)	mg/kg	0.5	<0.5	<0.5	200	0	
			Fenamiphos (Phenamiphos)	mg/kg	0.5	<0.5	<0.5	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Full 8270 SVOC in Soil (continued)

Method: ME-(AU)-ENVJAN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.020	LB095868.033	03-OPs	Fenclorophos (Ronnel)	mg/kg	0.5	<0.5	<0.5	200	0
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
			Fenthion	mg/kg	0.5	<0.5	<0.5	200	0
			Malathion (Maldison)	mg/kg	0.2	<0.2	<0.2	200	0
			Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
			Mevinphos-cis/trans	mg/kg	1	<1	<1	200	0
			o.o.o-triethyl phosphorothioate	mg/kg	0.5	<0.5	<0.5	200	0
			Parathion ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
			Parathion methyl	mg/kg	0.5	<0.5	<0.5	200	0
			Phorate	mg/kg	0.5	<0.5	<0.5	200	0
			Pirimiphos-ethyl	mg/kg	0.5	<0.5	<0.5	200	0
			Pirimiphos-methyl	mg/kg	0.5	<0.5	<0.5	200	0
			Profenofos	mg/kg	0.5	<0.5	<0.5	200	0
			Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5	<0.5	200	0
		Sulfotepp	mg/kg	0.5	<0.5	<0.5	200	0	
		Tetrachlorvinphos (Stirophos)*	mg/kg	0.5	<0.5	<0.5	200	0	
		04-PCB UPAC(7)	PCB Congener C28	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C52	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C101	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C118	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C138	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C153	mg/kg	0.1	<0.1	<0.1	200	0
			PCB Congener C180	mg/kg	0.1	<0.1	<0.1	200	0
		05-SVCH (CI Benzenes,	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
			1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
			1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
			Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	200	0
			Hexachlorocyclopentadiene	mg/kg	1	<1	<1	200	0
			Hexachloroethane	mg/kg	0.5	<0.5	<0.5	200	0
			Hexachloropropene	mg/kg	0.5	<0.5	<0.5	200	0
			Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
			Pentachloroethane	mg/kg	0.5	<0.5	<0.5	200	0
			1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1	<1	200	0
			1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
			1/2-Chloronaphthalene	mg/kg	1	<1	<1	200	0
			1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	200	0
		06-Phthalates	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	200	0
			Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5	<0.5	200	0
			Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	200	0
			Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	200	0
			Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	200	0
			Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	200	0
			Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	200	0
		07-Carbamates	Carbofuran	mg/kg	0.5	<0.5	<0.5	200	0
			Carbaryl	mg/kg	0.5	<0.5	<0.5	200	0
		08-Herbicides	Trifluralin	mg/kg	0.5	<0.5	<0.5	200	0
		09-Nitrosamine s	N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5	<0.5	200	0
			N-nitroso-diethylamine (NDEA)	mg/kg	1	<1	<1	200	0
			N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5	<0.5	200	0
			N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5	<0.5	200	0
			N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5	<0.5	200	0
			N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1	<1	200	0
4-amino biphenyl	mg/kg		1	<1	<1	200	0		
10-Nitroaromati cs and	Acetophenone	mg/kg	0.5	<0.5	<0.5	200	0		
	1,3-dinitrobenzene	mg/kg	1	<1	<1	200	0		
	2,4-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	200	0		
	2,6-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	200	0		
	Isophorone	mg/kg	0.5	<0.5	<0.5	200	0		
	Nitrobenzene	mg/kg	0.5	<0.5	<0.5	200	0		
	p-(dimethylamino) azobenzene	mg/kg	1	<1	<1	200	0		

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Full 8270 SVOC in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149361.020	LB095868.033	10-Nitroaromatics and	Phenacetin	mg/kg	1	<1	<1	200	0	
			Pentachloronitrobenzene (quintozene)	mg/kg	0.5	<0.5	<0.5	200	0	
		11-Anilines and Amines	Aniline	mg/kg	3	<3	<3	200	0	
			4-chloroaniline	mg/kg	1	<1	<1	200	0	
			2-nitroaniline	mg/kg	1	<1	<1	200	0	
			3-nitroaniline	mg/kg	1	<1	<1	200	0	
			4-nitroaniline	mg/kg	1	<1	<1	200	0	
			Diphenylamine	mg/kg	0.5	<0.5	<0.5	200	0	
			o-toluidine	mg/kg	1	<1	<1	200	0	
			5-nitro-o-toluidine	mg/kg	1	<1	<1	200	0	
			1-naphthylamine	mg/kg	1	<1	<1	200	0	
		2-naphthylamine	mg/kg	1	<1	<1	200	0		
		12-Haloethers	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	200	0	
			Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	200	0	
			Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	200	0	
			4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	200	0	
			4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	200	0	
		13-Other SVOCs	Methyl methanesulfonate	mg/kg	1	<1	<1	200	0	
			Ethyl methanesulfonate	mg/kg	1	<1	<1	200	0	
			Dibenzofuran	mg/kg	0.5	<0.5	<0.5	200	0	
			Benzyl alcohol	mg/kg	1	<1	<1	200	0	
			Safrole	mg/kg	0.5	<0.5	<0.5	200	0	
			Isosafrole Isomer 1	mg/kg	1	<1	<1	200	0	
			Isosafrole Isomer 2	mg/kg	1	<1	<1	200	0	
			1,4-naphthoquinone	mg/kg	0.5	<0.5	<0.5	200	0	
			Thionazin	mg/kg	1	<1	<1	200	0	
		14-Speciati Routine	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0	
			2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0	
			2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0	
			2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0	
			2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			Phenol	mg/kg	0.5	<0.5	<0.5	200	0	
			2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			4-nitrophenol	mg/kg	1	<1	<1	200	0	
			2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0	
			Surrogates	d5-phenol (Surrogate)	mg/kg	-	1.8	1.6	30	12
				d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	30	12
				2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	30	14
		2,4,6-tribromophenol (Surrogate)		mg/kg	-	3.5	3.5	30	0	
		d14-p-terphenyl (Surrogate)		mg/kg	-	0.5	0.4	30	17	

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.009	LB095998.014	Mercury	mg/kg	0.01	0.02	0.02	200	0
SE149361.018	LB095998.024	Mercury	mg/kg	0.01	0.02	0.02	200	0
SE149443.037	LB095999.014	Mercury	mg/kg	0.01	0.01	0.01	200	0
SE149453.005	LB095999.024	Mercury	mg/kg	0.01	0.02	0.02	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.002	LB095863.011	% Moisture	%w/w	0.5	14	14	37	2
SE149361.013	LB095863.022	% Moisture	%w/w	0.5	20	20	35	0
SE149421.001	LB095863.033	% Moisture	%w/w	0.5	11.9	11.1	39	7
SE149423.001	LB095863.035	% Moisture	%w/w	0.5	29.5	31.8	33	8

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.14	30	0
SE149361.020	LB095868.033	trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	30	4

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	9
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.7	30	6
SE149361.017	LB095868.032	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	3

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	7
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	30	9
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.7	30	6
SE149361.017	LB095868.032	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	0
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	0
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.6	30	3

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	mg/kg	-	0	0	30	0
SE149361.020	LB095868.031	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	mg/kg	-	0	0	30	4

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	Phenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	200	0
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	200	0
		Total Cresol	mg/kg	1.5	<1.5	<1.5	200	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	200	0
		4-nitrophenol	mg/kg	1	<1	<1	200	0
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	200	0
		Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	200	0
		2,4-dinitrophenol	mg/kg	2	<2	<2	200	0
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	200	0
		Surrogates	mg/kg	-	3.6	3.6	30	0
		d5-phenol (Surrogate)	mg/kg	-	1.6	1.5	30	7

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB096039.014	Arsenic, As	mg/kg	3	6	7	46	11
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	99	6
		Chromium, Cr	mg/kg	0.3	9.3	10	35	9
		Copper, Cu	mg/kg	0.5	32	31	32	6
		Lead, Pb	mg/kg	1	28	20	34	32
		Nickel, Ni	mg/kg	0.5	18	19	33	3
		Zinc, Zn	mg/kg	0.5	82	82	32	1
SE149361.020	LB096039.024	Arsenic, As	mg/kg	3	6	6	46	5
		Cadmium, Cd	mg/kg	0.3	0.4	0.4	103	1
		Chromium, Cr	mg/kg	0.3	12	11	34	5
		Copper, Cu	mg/kg	0.5	19	18	33	8
		Lead, Pb	mg/kg	1	21	18	35	14
		Nickel, Ni	mg/kg	0.5	10	9.9	35	5
		Zinc, Zn	mg/kg	0.5	49	49	34	0
SE149443.039	LB096040.014	Arsenic, As	mg/kg	3	<3	<3	116	5
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	3.1	2.9	47	4
		Copper, Cu	mg/kg	0.5	1.2	1.5	68	22
		Lead, Pb	mg/kg	1	7	8	43	20
		Nickel, Ni	mg/kg	0.5	<0.5	<0.5	148	0
		Zinc, Zn	mg/kg	0.5	6.8	10	54	37
SE149464.002	LB096040.024	Arsenic, As	mg/kg	3	5	7	47	28
		Cadmium, Cd	mg/kg	0.3	0.5	0.5	90	0
		Chromium, Cr	mg/kg	0.3	12	11	34	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Metals in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149464.002	LB096040.024	Copper, Cu	mg/kg	0.5	27	37	32	33 @
		Lead, Pb	mg/kg	1	98	100	31	6
		Nickel, Ni	mg/kg	0.5	5.9	7.7	37	26
		Zinc, Zn	mg/kg	0.5	100	140	32	31

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149402.005	LB095853.018	Lead, Pb	µg/L	1	<1	<1	200	0

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB095868.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE149361.017	LB095868.031	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	<45	<45	200	0
		TRH C29-C36	mg/kg	45	<45	<45	200	0
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
		TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH F Bands	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.011	LB096096.015	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	4.3	50	11
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	5.3	50	12
			d8-toluene (Surrogate)	mg/kg	-	5.5	4.8	50	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	4.6	50	6
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE149361.021	LB096096.029	Monocyclic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Aromatic	Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.5	50	18
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.9	5.7	50	15
			d8-toluene (Surrogate)	mg/kg	-	4.2	5.3	50	23
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.1	5.0	50	19
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
SE149361.022	LB096096.030	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %		
SE149361.022	LB096096.030	Fumigants	cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0		
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0		
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0		
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0		
			Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0	
		Vinyl chloride (Chloroethene)		mg/kg	0.1	<0.1	<0.1	200	0		
		Bromomethane		mg/kg	1	<1	<1	200	0		
		Chloroethane		mg/kg	1	<1	<1	200	0		
		Trichlorofluoromethane		mg/kg	1	<1	<1	200	0		
		Iodomethane		mg/kg	5	<5	<5	200	0		
		1,1-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0		
		Dichloromethane (Methylene chloride)		mg/kg	0.5	<0.5	<0.5	200	0		
		Allyl chloride		mg/kg	0.1	<0.1	<0.1	200	0		
		trans-1,2-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0		
		1,1-dichloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		cis-1,2-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0		
		Bromochloromethane		mg/kg	0.1	<0.1	<0.1	200	0		
		1,2-dichloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		1,1,1-trichloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		1,1-dichloropropene		mg/kg	0.1	<0.1	<0.1	200	0		
		Carbon tetrachloride		mg/kg	0.1	<0.1	<0.1	200	0		
		Dibromomethane		mg/kg	0.1	<0.1	<0.1	200	0		
		Trichloroethene (Trichloroethylene -TCE)		mg/kg	0.1	<0.1	<0.1	200	0		
		1,1,2-trichloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		1,3-dichloropropane		mg/kg	0.1	<0.1	<0.1	200	0		
		Tetrachloroethene (Perchloroethylene,PCE)		mg/kg	0.1	<0.1	<0.1	200	0		
		1,1,1,2-tetrachloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		cis-1,4-dichloro-2-butene		mg/kg	1	<1	<1	200	0		
		1,1,2,2-tetrachloroethane		mg/kg	0.1	<0.1	<0.1	200	0		
		1,2,3-trichloropropane		mg/kg	0.1	<0.1	<0.1	200	0		
		trans-1,4-dichloro-2-butene		mg/kg	1	<1	<1	200	0		
		1,2-dibromo-3-chloropropane		mg/kg	0.1	<0.1	<0.1	200	0		
		Hexachlorobutadiene		mg/kg	0.1	<0.1	<0.1	200	0		
		Halogenated		Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
					Bromobenzene	mg/kg	0.1	<0.1	<0.1	200	0
					2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
					4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	200	0
					1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,4-dichlorobenzene		mg/kg	0.1	<0.1	<0.1	200	0	
			1,2-dichlorobenzene		mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,4-trichlorobenzene		mg/kg	0.1	<0.1	<0.1	200	0	
			1,2,3-trichlorobenzene		mg/kg	0.1	<0.1	<0.1	200	0	
		Monocyclic	Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0	
				Toluene	mg/kg	0.1	<0.1	<0.1	200	0	
				Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0	
				o-xylene	mg/kg	0.1	<0.1	<0.1	200	0	
				Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0	
				Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0	
				n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				p-isopropyltoluene	mg/kg	0.1	<0.1	0.2	97	79	
				n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
				Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
				Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
				Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
				Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
					Vinyl acetate	mg/kg	10	<10	<10	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = \frac{|OriginalResult - ReplicateResult|}{Mean} \times 100$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \frac{SDL}{Mean} + LR$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149361.022	LB096096.030	Oxygenated Compounds	MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.8	4.6	50	4
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.7	5.6	50	1
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.2	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	4.8	50	3
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149424.001	LB095862.015	Monocyclic	Benzene	µg/L	0.5	<0.5	0.01	200	0
			Aromatic	Toluene	µg/L	0.5	<0.5	0.01	200
			Ethylbenzene	µg/L	0.5	<0.5	0	200	0
			m/p-xylene	µg/L	1	<1	0.01	200	0
			o-xylene	µg/L	0.5	<0.5	0	200	0
			Polycyclic	Naphthalene	µg/L	0.5	<0.5	0.03	200
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	6.1	6.07	30	1
			d4-1,2-dichloroethane (Surrogate)	µg/L	-	6.4	6.38	30	1
			d8-toluene (Surrogate)	µg/L	-	4.2	4.12	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	5.1	4.75	30	6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149361.011	LB096096.015	TRH C6-C10	mg/kg	25	<25	<25	200	0	
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	4.3	30	11
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.0	5.3	30	12
			d8-toluene (Surrogate)	mg/kg	-	5.5	4.8	30	14
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	4.6	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
		SE149361.021	LB096096.029	TRH C6-C10	mg/kg	25	<25	<25	200
TRH C6-C9	mg/kg			20	<20	<20	200	0	
Surrogates	Dibromofluoromethane (Surrogate)			mg/kg	-	3.8	4.5	30	18
	d4-1,2-dichloroethane (Surrogate)			mg/kg	-	4.9	5.7	30	15
	d8-toluene (Surrogate)			mg/kg	-	4.2	5.3	30	22
	Bromofluorobenzene (Surrogate)			mg/kg	-	4.1	5.0	30	19
VPH F Bands	Benzene (F0)			mg/kg	0.1	<0.1	<0.1	200	0
	TRH C6-C10 minus BTEX (F1)			mg/kg	25	<25	<25	200	0
SE149361.022	LB096096.030			TRH C6-C10	mg/kg	25	<25	<25	200
		TRH C6-C9	mg/kg	20	<20	<20	200	0	
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.7	5.0	30	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	6.0	30	4
			d8-toluene (Surrogate)	mg/kg	-	5.6	5.8	30	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.8	5.1	30	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149424.001	LB095862.015	TRH C6-C10	µg/L	50	<50	0	200	0	
		TRH C6-C9	µg/L	40	<40	0	200	0	
		Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	6.1	6.07	30	1
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	6.4	6.38	30	1	



DUPLICATES

SE149361 R1

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149424.001	LB095862.015	Surrogates	d8-toluene (Surrogate)	µg/L	-	4.2	4.12	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	5.1	4.75	30	6
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	0.01	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	-0.03	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	01-PAHs	Acenaphthene	mg/kg	0.1	4.7	4	70 - 130
		Acenaphthylene	mg/kg	0.1	4.4	4	70 - 130
		Anthracene	mg/kg	0.1	4.8	4	70 - 130
		Benzo(a)pyrene	mg/kg	0.1	4.9	4	70 - 130
		Fluoranthene	mg/kg	0.1	4.9	4	70 - 130
		Naphthalene	mg/kg	0.1	4.6	4	70 - 130
		Phenanthrene	mg/kg	0.1	4.9	4	70 - 130
	02-OCs	Pyrene	mg/kg	0.1	5.0	4	70 - 130
		Aldrin	mg/kg	0.1	1.2	1	70 - 130
		Delta-BHC	mg/kg	0.1	1.3	1	70 - 130
		p,p-DDT	mg/kg	0.1	0.8	1	70 - 130
		Dieldrin	mg/kg	0.2	1.2	1	70 - 130
		Endrin	mg/kg	0.2	1.0	1	70 - 130
	03-OPs	Heptachlor	mg/kg	0.1	0.8	1	70 - 130
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.1	2	70 - 130
		Diazinon (Dimpylate)	mg/kg	0.5	1.9	2	70 - 130
		Dichlorvos	mg/kg	0.5	1.4	2	70 - 130
	05-SVCH (CI Benzenes,	Ethion	mg/kg	0.2	1.4	2	70 - 130
		Hexachlorobenzene (HCB)	mg/kg	0.1	1.0	1	70 - 130
		Hexachlorobutadiene	mg/kg	0.5	1.2	1	70 - 130
		Hexachloroethane	mg/kg	0.5	1.3	1	70 - 130
		Pentachlorobenzene	mg/kg	0.5	1.0	1	70 - 130
	06-Phthalates	1,2,3,4-tetrachlorobenzene	mg/kg	0.5	1.1	1	70 - 130
		Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	4	70 - 130
		Butyl benzyl phthalate	mg/kg	0.5	4.0	4	70 - 130
		Di-n-butyl phthalate	mg/kg	0.5	4.2	4	70 - 130
		Diethyl phthalate	mg/kg	0.5	4.1	4	70 - 130
		Dimethyl phthalate	mg/kg	0.5	3.9	4	70 - 130
	07-Carbamates	Diethyl phthalate	mg/kg	0.5	4.9	4	70 - 130
		Carbofuran	mg/kg	0.5	0.9	1	70 - 130
	09-Nitrosamine	N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	2.3	2	70 - 130
	10-Nitroaromati	Pentachloronitrobenzene (quintozone)	mg/kg	0.5	0.8	1	70 - 130
	14-Speciati	2,4-dichlorophenol	mg/kg	0.5	1.1	1	70 - 130
		Phenol	mg/kg	0.5	1.2	1	70 - 130
		2,4,6-trichlorophenol	mg/kg	0.5	1.1	1	70 - 130
	Routine	Pentachlorophenol	mg/kg	0.5	1.1	1	70 - 130
		d5-phenol (Surrogate)	mg/kg	-	2.2	2	40 - 130
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	40 - 130
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130
		2,4,6-tribromophenol (Surrogate)	mg/kg	-	3.7	5	40 - 130
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095998.002	Mercury	mg/kg	0.01	0.20	0.2	70 - 130	99
LB095999.002	Mercury	mg/kg	0.01	0.21	0.2	70 - 130	105

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	Surrogates	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140
		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	Dichlorvos	mg/kg	0.5	1.4	2	60 - 140	72
	Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	101
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	95
	Ethion	mg/kg	0.2	1.9	2	60 - 140	94
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	Naphthalene	mg/kg	0.1	4.3	4	60 - 140	107
	Acenaphthylene	mg/kg	0.1	4.1	4	60 - 140	102
	Acenaphthene	mg/kg	0.1	4.3	4	60 - 140	108
	Phenanthrene	mg/kg	0.1	4.3	4	60 - 140	108
	Anthracene	mg/kg	0.1	4.6	4	60 - 140	115
	Fluoranthene	mg/kg	0.1	4.7	4	60 - 140	117
	Pyrene	mg/kg	0.1	5.0	4	60 - 140	125
	Benzo(a)pyrene	mg/kg	0.1	4.0	4	60 - 140	101
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	88
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	107

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	Phenol	mg/kg	0.5	1.2	1	70 - 130	121
	2,4-dichlorophenol	mg/kg	0.5	1.1	1	70 - 130	114
	2,4,6-trichlorophenol	mg/kg	0.5	1.1	1	70 - 130	106
	Pentachlorophenol	mg/kg	0.5	1.1	1	70 - 130	109
	Surrogates						
	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.8	5	40 - 130	97
	d5-phenol (Surrogate)	mg/kg	-	1.9	2	40 - 130	96

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096039.002	Arsenic, As	mg/kg	3	50	50	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	51	50	80 - 120	103
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	101
	Lead, Pb	mg/kg	1	50	50	80 - 120	101
	Nickel, Ni	mg/kg	0.5	52	50	80 - 120	104
	Zinc, Zn	mg/kg	0.5	51	50	80 - 120	103
LB096040.002	Arsenic, As	mg/kg	3	50	50	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	52	50	80 - 120	104
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	101
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	103
	Lead, Pb	mg/kg	1	51	50	80 - 120	101
	Nickel, Ni	mg/kg	0.5	52	50	80 - 120	104
	Zinc, Zn	mg/kg	0.5	52	50	80 - 120	103

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095853.002	Lead, Pb	µg/L	1	20	20	80 - 120	99

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	TRH C10-C14	mg/kg	20	46	40	60 - 140	115
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	103
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	90

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095868.002	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	45	40	60 - 140
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095866.002	TRH C10-C14	TRH C10-C14	µg/L	50	1300	1200	60 - 140
		TRH C15-C28	µg/L	200	1500	1200	60 - 140
		TRH C29-C36	µg/L	200	1600	1200	60 - 140
	TRH F Bands	TRH >C10-C16 (F2)	µg/L	60	1400	1200	60 - 140
		TRH >C16-C34 (F3)	µg/L	500	1600	1200	60 - 140
		TRH >C34-C40 (F4)	µg/L	500	790	600	60 - 140

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096096.002	Halogenated	1,1-dichloroethene	mg/kg	0.1	3.1	2.56	60 - 140
		Aliphatics	mg/kg	0.1	3.4	2.56	60 - 140
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.3	2.56	60 - 140
	Halogenated	Chlorobenzene	mg/kg	0.1	3.2	2.56	60 - 140
	Monocyclic	Benzene	mg/kg	0.1	3.5	2.9	60 - 140
	Aromatic	Toluene	mg/kg	0.1	2.9	2.9	60 - 140
		Ethylbenzene	mg/kg	0.1	2.9	2.9	60 - 140
		m/p-xylene	mg/kg	0.2	5.7	5.8	60 - 140
		o-xylene	mg/kg	0.1	3.1	2.9	60 - 140
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.9	5
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.5	5
			d8-toluene (Surrogate)	mg/kg	-	4.9	5
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.3	5
	Trihalomethan	Chloroform	mg/kg	0.1	3.4	2.56	60 - 140

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095862.002	Monocyclic	Benzene	µg/L	0.5	51	45.45	60 - 140
		Aromatic	µg/L	0.5	51	45.45	60 - 140
		Toluene	µg/L	0.5	51	45.45	60 - 140
		Ethylbenzene	µg/L	0.5	52	45.45	60 - 140
		m/p-xylene	µg/L	1	100	90.9	60 - 140
		o-xylene	µg/L	0.5	52	45.45	60 - 140
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.9	5	60 - 140
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	5	60 - 140
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140
		Bromofluorobenzene (Surrogate)	µg/L	-	5.3	5	60 - 140

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096096.002	TRH C6-C10	TRH C6-C10	mg/kg	25	<25	24.65	60 - 140
		TRH C6-C9	mg/kg	20	21	23.2	60 - 140
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.9	5	60 - 140
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.4	5	60 - 140
		d8-toluene (Surrogate)	mg/kg	-	5.3	5	60 - 140
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	5	60 - 140
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB095862.002	TRH C6-C10	TRH C6-C10	µg/L	50	940	946.63	60 - 140
		TRH C6-C9	µg/L	40	770	818.71	60 - 140
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	4.9	5	60 - 140
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	5	60 - 140
		d8-toluene (Surrogate)	µg/L	-	4.8	5	60 - 140
		Bromofluorobenzene (Surrogate)	µg/L	-	5.3	5	60 - 140
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	640	639.67	60 - 140

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149344.001	LB095998.004	Mercury	mg/kg	0.01	0.32	0.27	0.2	24 Ⓢ
SE149361.019	LB095999.004	Mercury	mg/kg	0.01	0.18	0.02	0.2	83

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.034	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	86
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	98
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	104
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	97
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	89
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	76
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.13	-	88

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.031	Dichlorvos	mg/kg	0.5	2.2	<0.5	2	108
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	2.2	<0.5	2	109
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.2	<0.2	2	110
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Methodathion	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	2.2	<0.2	2	112
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.7	-	118
	Surrogates							

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.031	Naphthalene	mg/kg	0.1	4.9	<0.1	4	123
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	5.0	<0.1	4	124
		Acenaphthene	mg/kg	0.1	4.6	<0.1	4	115
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.9	<0.1	4	123
		Anthracene	mg/kg	0.1	4.9	<0.1	4	123
		Fluoranthene	mg/kg	0.1	5.2	<0.1	4	131

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]JAN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.031	Pyrene	mg/kg	0.1	5.5	<0.1	4	139
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	4.8	<0.1	4	121
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	4.8	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	5.0	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	4.9	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	40	<0.8	-	-
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	92
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	-	84
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.7	-	118

PCBs in Soil

Method: ME-(AU)-[ENV]JAN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.032	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.4	<0.2	0.4	107
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	86

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]JAN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.034	Phenol	mg/kg	0.5	1.2	<0.5	1	123
		2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	-	-
		3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	-	-
		Total Cresol	mg/kg	1.5	<1.5	<1.5	-	-
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,4-dichlorophenol	mg/kg	0.5	0.8	<0.5	1	82
		2,4,6-trichlorophenol	mg/kg	0.5	0.9	<0.5	1	88
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	-	-
		4-nitrophenol	mg/kg	1	<1	<1	-	-
		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	-	-
		2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	-	-
		Pentachlorophenol	mg/kg	0.5	0.8	<0.5	1	79
		2,4-dinitrophenol	mg/kg	2	<2	<2	-	-
		4-chloro-3-methylphenol	mg/kg	2	<2	<2	-	-
	Surrogates	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	3.8	4.0	-	76
		d5-phenol (Surrogate)	mg/kg	-	2.1	2.2	-	106

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]JAN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.001	LB096039.004	Arsenic, As	mg/kg	3	47	<3	50	92
		Cadmium, Cd	mg/kg	0.3	45	0.3	50	89
		Chromium, Cr	mg/kg	0.3	62	12	50	99
		Copper, Cu	mg/kg	0.5	110	64	50	101
		Lead, Pb	mg/kg	1	51	7	50	87
		Nickel, Ni	mg/kg	0.5	100	41	50	122
		Zinc, Zn	mg/kg	0.5	130	72	50	108
	SE149361.021	Arsenic, As	mg/kg	3	48	7	50	83

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Total Recoverable Metals in Soil by ICPOES (continued)

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.021	LB096040.004	Cadmium, Cd	mg/kg	0.3	44	0.5	50	86
		Chromium, Cr	mg/kg	0.3	54	13	50	81
		Copper, Cu	mg/kg	0.5	61	16	50	92
		Lead, Pb	mg/kg	1	59	20	50	78
		Nickel, Ni	mg/kg	0.5	52	9.0	50	86
		Zinc, Zn	mg/kg	0.5	86	46	50	82

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.002	LB095868.032	TRH C10-C14	mg/kg	20	44	<20	40	110
		TRH C15-C28	mg/kg	45	<45	<45	40	105
		TRH C29-C36	mg/kg	45	<45	<45	40	105
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	130	<110	-	-
		TRH C10-C40 Total	mg/kg	210	<210	<210	-	-
		TRH F Bands	mg/kg	25	42	<25	40	105
		TRH >C10-C16 (F2)	mg/kg	25	42	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	108
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149361.001	LB096096.004	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	-
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	-
			Chloromethane	mg/kg	1	<1	<1	-
		Aliphatics	Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1	-
			Bromomethane	mg/kg	1	<1	<1	-
			Chloroethane	mg/kg	1	<1	<1	-
			Trichlorofluoromethane	mg/kg	1	<1	<1	-
			Iodomethane	mg/kg	5	<5	<5	-
			1,1-dichloroethene	mg/kg	0.1	2.7	<0.1	2.56
			Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5	-
			Allyl chloride	mg/kg	0.1	<0.1	<0.1	-
			trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-
			1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1	-
			cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1	-
			Bromochloromethane	mg/kg	0.1	<0.1	<0.1	-
			1,2-dichloroethane	mg/kg	0.1	3.0	<0.1	2.56
			1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1	-
			1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1	-
			Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1	-
			Dibromomethane	mg/kg	0.1	<0.1	<0.1	-
			Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.0	<0.1	2.56
			1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1	-
			1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1	-
			Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1	-
			1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-
			cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-
			1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1	-
			1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1	-
			trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1	-
			1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1	-
			Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1	-
		Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	2.8	<0.1	2.56
			Bromobenzene	mg/kg	0.1	<0.1	<0.1	-
			2-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-
			4-chlorotoluene	mg/kg	0.1	<0.1	<0.1	-
			1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE149361.001	LB096096.004	Halogenated	1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-	
			Aromatics	1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-
			1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-	
			1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1	-	-	
		Monocyclic	Benzene	mg/kg	0.1	3.0	<0.1	2.9	104	
			Aromatic	Toluene	mg/kg	0.1	2.5	<0.1	2.9	86
		Ethylbenzene		mg/kg	0.1	2.6	<0.1	2.9	88	
		m/p-xylene		mg/kg	0.2	4.9	<0.2	5.8	85	
		o-xylene		mg/kg	0.1	2.7	<0.1	2.9	92	
		Styrene (Vinyl benzene)		mg/kg	0.1	<0.1	<0.1	-	-	
		Isopropylbenzene (Cumene)		mg/kg	0.1	<0.1	<0.1	-	-	
		n-propylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		1,3,5-trimethylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		tert-butylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		1,2,4-trimethylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		sec-butylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		p-isopropyltoluene		mg/kg	0.1	<0.1	0.1	-	-	
		n-butylbenzene		mg/kg	0.1	<0.1	<0.1	-	-	
		Nitrogenous		Acrylonitrile	mg/kg	0.1	<0.1	<0.1	-	-
				Compounds	2-nitropropane	mg/kg	10	<10	<10	-
		Oxygenated			Acetone (2-propanone)	mg/kg	10	<10	<10	-
			Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	-	-
				Vinyl acetate	mg/kg	10	<10	<10	-	-
				MEK (2-butanone)	mg/kg	10	<10	<10	-	-
				MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	-	-
				2-hexanone (MBK)	mg/kg	5	<5	<5	-	-
		Polycyclic		Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	-	-	
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	5.1	-	104	
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.3	5.7	-	125	
			d8-toluene (Surrogate)	mg/kg	-	4.4	4.6	-	88	
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.6	5.1	-	93	
		Totals	Total Xylenes*	mg/kg	0.3	7.6	<0.3	-	-	
			Total BTEX	mg/kg	0.6	16	<0.6	-	-	
		Trihalomethanes	Chloroform	mg/kg	0.1	3.2	<0.1	2.56	125	
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	-	-	
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	-	-	
			Bromoform	mg/kg	0.1	<0.1	<0.1	-	-	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%	
SE149361.001	LB096096.004	TRH C6-C10	mg/kg	25	<25	<25	24.65	81	
		TRH C6-C9	mg/kg	20	<20	<20	23.2	73	
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.2	5.0	-	103
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	5.8	-	115
			d8-toluene (Surrogate)	mg/kg	-	5.7	5.5	-	114
			Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	5.4	-	110
		VPH F	Benzene (F0)	mg/kg	0.1	3.0	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	61



MATRIX SPIKE DUPLICATES

SE149361 R1

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

QC Sample	Sample Number	Parameter	Units	LOR



Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
- Sample not analysed for this analyte.

IS Insufficient sample for analysis.
LNR Sample listed, but not received.
LOR Limit of reporting.
QFH QC result is above the upper tolerance.
QFL QC result is below the lower tolerance.

- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to Analytical Report comments for further information.

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Project **1648232 - Prixcar - Minto**
 Order Number (Not specified)
 Samples 26

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SGS Reference **SE149361 R1**
 Date Received 18/2/2016
 Date Reported 16/3/2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all samples using trace analysis technique as per AS 4964-2004.

Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthupudin .

This report cancels and supersedes the report No. SE149361 R0 dated 09/03/2016 issued by SGS Environmental Services due to an amendment of sample IDs for samples .020 and .021

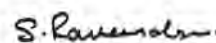
SIGNATORIES



Andy Sutton
 Senior Organic Chemist



Kamrul Ahsan
 Senior Chemist



Ravee Sivasubramaniam
 Asbestos Analyst/Hygiene Team Leader



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL - 16/2/2016 SE149361.001	SOIL - 16/2/2016 SE149361.002	SOIL - 17/2/2016 SE149361.004	SOIL - 17/2/2016 SE149361.005	SOIL - 17/2/2016 SE149361.006
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	0.3	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	<1	<1	<1
Chloromethane	mg/kg	1	<1	-	<1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	-	<1	<1	<1
Chloroethane	mg/kg	1	<1	-	<1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	-	<1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	-	<10	<10	<10
Iodomethane	mg/kg	5	<5	-	<5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	<0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	-	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	-	<10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	-	<10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	-	<10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	<1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	-	<5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	<1	<1	<1



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	0.1	-	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	<0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL - 17/2/2016 SE149361.007	SOIL - 15/2/2016 SE149361.008	SOIL - 15/2/2016 SE149361.009	SOIL - 15/2/2016 SE149361.010	SOIL - 15/2/2016 SE149361.011
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL - 16/2/2016 SE149361.012	SOIL - 13/2/2016 SE149361.013	SOIL - 16/2/2016 SE149361.014	SOIL - 16/2/2016 SE149361.015	SOIL - 16/2/2016 SE149361.016
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	-	-	-	<1
Chloromethane	mg/kg	1	<1	-	-	-	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	-	-	-	<0.1
Bromomethane	mg/kg	1	<1	-	-	-	<1
Chloroethane	mg/kg	1	<1	-	-	-	<1
Trichlorofluoromethane	mg/kg	1	<1	-	-	-	<1
Acetone (2-propanone)	mg/kg	10	<10	-	-	-	<10
Iodomethane	mg/kg	5	<5	-	-	-	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	-	-	-	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	-	-	-	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	-	-	-	<0.5
Allyl chloride	mg/kg	0.1	<0.1	-	-	-	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	-	-	-	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
Vinyl acetate	mg/kg	10	<10	-	-	-	<10
MEK (2-butanone)	mg/kg	10	<10	-	-	-	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	-	-	-	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	-	-	-	<0.1
Chloroform	mg/kg	0.1	<0.1	-	-	-	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	-	-	-	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	-	-	-	<0.1
Dibromomethane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	-	-	-	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	-	-	-	<0.1
2-nitropropane	mg/kg	10	<10	-	-	-	<10
Bromodichloromethane	mg/kg	0.1	<0.1	-	-	-	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	-	-	-	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	-	-	-	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	-	-	-	<0.1
2-hexanone (MBK)	mg/kg	5	<5	-	-	-	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	-	-	-	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
Bromoform	mg/kg	0.1	<0.1	-	-	-	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	-	-	-	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	-	-	-	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	-	-	-	<1



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	-	-	-	<0.1
Bromobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	0.1	-	-	-	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	0.3	-	-	-	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	-	-	-	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	-	-	-	<0.1
Total VOC*	mg/kg	24	-	-	-	-	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0.0-0.1	GA-HA03-002 0.9-1.0
			SOIL - 16/2/2016 SE149361.017	SOIL - 15/2/2016 SE149361.018	SOIL - 15/2/2016 SE149361.019	SOIL - 15/2/2016 SE149361.020	SOIL - 15/2/2016 SE149361.021
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	-	<1	-	<1	-
Chloromethane	mg/kg	1	-	<1	-	<1	-
Vinyl chloride (Chloroethene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromomethane	mg/kg	1	-	<1	-	<1	-
Chloroethane	mg/kg	1	-	<1	-	<1	-
Trichlorofluoromethane	mg/kg	1	-	<1	-	<1	-
Acetone (2-propanone)	mg/kg	10	-	<10	-	<10	-
Iodomethane	mg/kg	5	-	<5	-	<5	-
1,1-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Acrylonitrile	mg/kg	0.1	-	<0.1	-	<0.1	-
Dichloromethane (Methylene chloride)	mg/kg	0.5	-	<0.5	-	<0.5	-
Allyl chloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon disulfide	mg/kg	0.5	-	<0.5	-	<0.5	-
trans-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Vinyl acetate	mg/kg	10	-	<10	-	<10	-
MEK (2-butanone)	mg/kg	10	-	<10	-	<10	-
cis-1,2-dichloroethene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromochloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chloroform	mg/kg	0.1	-	<0.1	-	<0.1	-
2,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
Carbon tetrachloride	mg/kg	0.1	-	<0.1	-	<0.1	-
Dibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
2-nitropropane	mg/kg	10	-	<10	-	<10	-
Bromodichloromethane	mg/kg	0.1	-	<0.1	-	<0.1	-
MIBK (4-methyl-2-pentanone)	mg/kg	1	-	<1	-	<1	-
cis-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,3-dichloropropene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2-trichloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorodibromomethane	mg/kg	0.1	-	<0.1	-	<0.1	-
2-hexanone (MBK)	mg/kg	5	-	<5	-	<5	-
1,2-dibromoethane (EDB)	mg/kg	0.1	-	<0.1	-	<0.1	-
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,1,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
Chlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromoform	mg/kg	0.1	-	<0.1	-	<0.1	-
cis-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-
Styrene (Vinyl benzene)	mg/kg	0.1	-	<0.1	-	<0.1	-
1,1,2,2-tetrachloroethane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
trans-1,4-dichloro-2-butene	mg/kg	1	-	<1	-	<1	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0.0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.019	15/2/2016 SE149361.020	15/2/2016 SE149361.021
Isopropylbenzene (Cumene)	mg/kg	0.1	-	<0.1	-	<0.1	-
Bromobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-propylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
2-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
4-chlorotoluene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3,5-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
tert-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trimethylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
sec-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,3-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,4-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
p-isopropyltoluene	mg/kg	0.1	-	1.1	-	0.1	-
1,2-dichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
n-butylbenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2-dibromo-3-chloropropane	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,4-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Hexachlorobutadiene	mg/kg	0.1	-	<0.1	-	<0.1	-
1,2,3-trichlorobenzene	mg/kg	0.1	-	<0.1	-	<0.1	-
Total VOC*	mg/kg	24	-	-	-	-	-



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
Chloromethane	mg/kg	1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
Bromomethane	mg/kg	1	<1
Chloroethane	mg/kg	1	<1
Trichlorofluoromethane	mg/kg	1	<1
Acetone (2-propanone)	mg/kg	10	<10
Iodomethane	mg/kg	5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1
Vinyl acetate	mg/kg	10	<10
MEK (2-butanone)	mg/kg	10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1
Chloroform	mg/kg	0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
2-nitropropane	mg/kg	10	<10
Bromodichloromethane	mg/kg	0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1
Bromoform	mg/kg	0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1



ANALYTICAL RESULTS

SE149361 R1

VOC's in Soil [AN433/AN434] Tested: 29/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1
Total VOC*	mg/kg	24	-



ANALYTICAL RESULTS

SE149361 R1

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0.0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.019	15/2/2016 SE149361.020	15/2/2016 SE149361.021
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	Dup 04
			SOIL
			-
			16/2/2016 SE149361.022
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25



ANALYTICAL RESULTS

SE149361 R1

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	100	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	280	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	260	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	200	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	390	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	390	<210	<210	<210	<210

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210



ANALYTICAL RESULTS

SE149361 R1

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0.0-0.1	GA-HA03-002 0.9-1.0
			SOIL - 16/2/2016 SE149361.017	SOIL - 15/2/2016 SE149361.018	SOIL - 15/2/2016 SE149361.019	SOIL - 15/2/2016 SE149361.020	SOIL - 15/2/2016 SE149361.021
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	82
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25	<25	<25	78
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	<25	<25	78
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	Dup 04
			SOIL - 16/2/2016 SE149361.022
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	70
TRH C29-C36	mg/kg	45	220
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	190
TRH >C34-C40 (F4)	mg/kg	120	170
TRH C10-C36 Total	mg/kg	110	290
TRH C10-C40 Total	mg/kg	210	290



ANALYTICAL RESULTS

SE149361 R1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8



ANALYTICAL RESULTS

SE149361 R1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0.0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.019	15/2/2016 SE149361.020	15/2/2016 SE149361.021
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8



ANALYTICAL RESULTS

SE149361 R1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 25/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8



ANALYTICAL RESULTS

SE149361 R1

OC Pesticides in Soil [AN400/AN420] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149361 R1

OC Pesticides in Soil [AN400/AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149361 R1

OC Pesticides in Soil [AN400/AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149361 R1

OC Pesticides in Soil [AN400/AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA03-001 0-0.1	Dup 04
			SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.020	16/2/2016 SE149361.022
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149361 R1

OP Pesticides in Soil [AN400/AN420] Tested: 25/2/2016

			GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016	16/2/2016	17/2/2016	17/2/2016	17/2/2016
			SE149361.001	SE149361.002	SE149361.004	SE149361.005	SE149361.006
PARAMETER	UOM	LOR					
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

			GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016	15/2/2016	15/2/2016	15/2/2016	15/2/2016
			SE149361.007	SE149361.008	SE149361.009	SE149361.010	SE149361.011
PARAMETER	UOM	LOR					
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

			GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016	13/2/2016	16/2/2016	16/2/2016	16/2/2016
			SE149361.012	SE149361.013	SE149361.014	SE149361.015	SE149361.016
PARAMETER	UOM	LOR					
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2



ANALYTICAL RESULTS

SE149361 R1

OP Pesticides in Soil [AN400/AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA03-001 0-0.1	Dup 04
			SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.020	16/2/2016 SE149361.022
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2



ANALYTICAL RESULTS

SE149361 R1

PCBs in Soil [AN400/AN420] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE149361 R1

PCBs in Soil [AN400/AN420] Tested: 25/2/2016 (continued)

			GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA03-001 0-0.1	Dup 04
			SOIL	SOIL	SOIL	SOIL
			-	-	-	-
			16/2/2016	15/2/2016	15/2/2016	16/2/2016
PARAMETER	UOM	LOR	SE149361.017	SE149361.018	SE149361.020	SE149361.022
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1



ANALYTICAL RESULTS

SE149361 R1

Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1	GA-BH04_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006	15/2/2016 SE149361.008
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ, <LOR=0	TEQ	0.2	-	-	-	-	-
2-acetylaminofluorene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
7,12-dimethyl-benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Delta-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Alpha-endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Beta-endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carbophenothion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos-cis	mg/kg	2	<2	<2	<2	<2	<2
Chlorfenvinphos-trans	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Co-Ral (Coumaphos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149361 R1

Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_0.1	GA-BH04_01 0.1
			SOIL 16/2/2016 SE149361.001	SOIL 17/2/2016 SE149361.004	SOIL 17/2/2016 SE149361.005	SOIL 17/2/2016 SE149361.006	SOIL 15/2/2016 SE149361.008
Disulfoton (Di-syston)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EPN*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethoprophos (ethoprop or prophos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Famphur (Famophos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos (Phenamiphos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenchlorophos (Ronnel)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fenthion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion (Maldison)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos-cis/trans	mg/kg	1	<1	<1	<1	<1	<1
o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pirimiphos-ethyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pirimiphos-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Profenofos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulfotepp	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachlorvinphos (Stirophos)*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB Congener C28	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C52	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C101	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C118	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C138	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C153	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C180	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	1	<1	<1	<1	<1	<1
Hexachloroethane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1	<1	<1	<1	<1
1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1/2-Chloronaphthalene	mg/kg	1	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	<5	<5	<5
Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbofuran	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbaryl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trifluralin	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-diethylamine (NDEA)	mg/kg	1	<1	<1	<1	<1	<1
N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149361 R1

Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01	GA-BH04_01 0.1
			SOIL - 16/2/2016 SE149361.001	SOIL - 17/2/2016 SE149361.004	SOIL - 17/2/2016 SE149361.005	SOIL - 17/2/2016 SE149361.006	SOIL - 15/2/2016 SE149361.008
N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1	<1	<1	<1	<1
4-amino biphenyl	mg/kg	1	<1	<1	<1	<1	<1
Acetophenone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dinitrobenzene	mg/kg	1	<1	<1	<1	<1	<1
2,4-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-(dimethylamino) azobenzene	mg/kg	1	<1	<1	<1	<1	<1
Phenacetin	mg/kg	1	<1	<1	<1	<1	<1
Pentachloronitrobenzene (quintozone)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aniline	mg/kg	3	<3	<3	<3	<3	<3
4-chloroaniline	mg/kg	1	<1	<1	<1	<1	<1
2-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
3-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
4-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
Diphenylamine	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-toluidine	mg/kg	1	<1	<1	<1	<1	<1
5-nitro-o-toluidine	mg/kg	1	<1	<1	<1	<1	<1
1-naphthylamine	mg/kg	1	<1	<1	<1	<1	<1
2-naphthylamine	mg/kg	1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl methanesulfonate	mg/kg	1	<1	<1	<1	<1	<1
Ethyl methanesulfonate	mg/kg	1	<1	<1	<1	<1	<1
Dibenzofuran	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzyl alcohol	mg/kg	1	<1	<1	<1	<1	<1
Safrole	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isosafrole Isomer 1	mg/kg	1	<1	<1	<1	<1	<1
Isosafrole Isomer 2	mg/kg	1	<1	<1	<1	<1	<1
1,4-naphthoquinone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thionazin	mg/kg	1	<1	<1	<1	<1	<1
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
Carcinogenic PAHs, BaP TEQ, <LOR=LOR*	TEQ (mg/kg)	0.3	-	-	-	-	-
Carcinogenic PAHs, BaP TEQ, <LOR=LOR/2*	TEQ (mg/kg)	0.2	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149361 R1

Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH05_01 0.1	GA-BH06_01 0.1	GA-BH08_01 0.1	GA-HA01-001 0.0-0.1	GA-HA03-001 0.0-0.1
			SOIL - 15/2/2016 SE149361.010	SOIL - 16/2/2016 SE149361.012	SOIL - 16/2/2016 SE149361.016	SOIL - 15/2/2016 SE149361.018	SOIL - 15/2/2016 SE149361.020
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ, <LOR=0	TEQ	0.2	-	-	-	-	-
2-acetylaminofluorene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
7,12-dimethyl-benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta-BHC	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Delta-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-BHC (Lindane)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Alpha-endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Beta-endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha-chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma-chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carbophenothion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos-cis	mg/kg	2	<2	<2	<2	<2	<2
Chlorfenvinphos-trans	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Co-Ral (Coumaphos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149361 R1

Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH05_01 0.1	GA-BH06_01 0.1	GA-BH08_01 0.1	GA-HA01-001 0.0-0.1	GA-HA03-001 0.0-0.1
			SOIL 15/2/2016 SE149361.010	SOIL 16/2/2016 SE149361.012	SOIL 16/2/2016 SE149361.016	SOIL 15/2/2016 SE149361.018	SOIL 15/2/2016 SE149361.020
Disulfoton (Di-syston)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EPN*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethoprophos (ethoprop or prophos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Famphur (Famophos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos (Phenamiphos)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenchlorophos (Ronnel)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fenthion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion (Maldison)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos-cis/trans	mg/kg	1	<1	<1	<1	<1	<1
o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pirimiphos-ethyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pirimiphos-methyl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Profenofos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulfotepp	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachlorvinphos (Stirophos)*	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB Congener C28	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C52	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C101	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C118	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C138	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C153	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PCB Congener C180	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	1	<1	<1	<1	<1	<1
Hexachloroethane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1	<1	<1	<1	<1
1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1/2-Chloronaphthalene	mg/kg	1	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	<5	<5	<5
Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbofuran	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbaryl	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trifluralin	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-diethylamine (NDEA)	mg/kg	1	<1	<1	<1	<1	<1
N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



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Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH05_01 0.1	GA-BH06_01 0.1	GA-BH08_01 0.1	GA-HA01-001 0.0-0.1	GA-HA03-001 0.0-0.1
			SOIL - 15/2/2016 SE149361.010	SOIL - 16/2/2016 SE149361.012	SOIL - 16/2/2016 SE149361.016	SOIL - 15/2/2016 SE149361.018	SOIL - 15/2/2016 SE149361.020
N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1	<1	<1	<1	<1
4-amino biphenyl	mg/kg	1	<1	<1	<1	<1	<1
Acetophenone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-dinitrobenzene	mg/kg	1	<1	<1	<1	<1	<1
2,4-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dinitrotoluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-(dimethylamino) azobenzene	mg/kg	1	<1	<1	<1	<1	<1
Phenacetin	mg/kg	1	<1	<1	<1	<1	<1
Pentachloronitrobenzene (quintozone)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aniline	mg/kg	3	<3	<3	<3	<3	<3
4-chloroaniline	mg/kg	1	<1	<1	<1	<1	<1
2-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
3-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
4-nitroaniline	mg/kg	1	<1	<1	<1	<1	<1
Diphenylamine	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-toluidine	mg/kg	1	<1	<1	<1	<1	<1
5-nitro-o-toluidine	mg/kg	1	<1	<1	<1	<1	<1
1-naphthylamine	mg/kg	1	<1	<1	<1	<1	<1
2-naphthylamine	mg/kg	1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl methanesulfonate	mg/kg	1	<1	<1	<1	<1	<1
Ethyl methanesulfonate	mg/kg	1	<1	<1	<1	<1	<1
Dibenzofuran	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzyl alcohol	mg/kg	1	<1	<1	<1	<1	<1
Safrole	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isosafrole Isomer 1	mg/kg	1	<1	<1	<1	<1	<1
Isosafrole Isomer 2	mg/kg	1	<1	<1	<1	<1	<1
1,4-naphthoquinone	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thionazin	mg/kg	1	<1	<1	<1	<1	<1
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
Carcinogenic PAHs, BaP TEQ, <LOR=LOR*	TEQ (mg/kg)	0.3	-	-	-	-	-
Carcinogenic PAHs, BaP TEQ, <LOR=LOR/2*	TEQ (mg/kg)	0.2	-	-	-	-	-
2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5



ANALYTICAL RESULTS

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Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Acenaphthene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	0.1
Fluorene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1
Pyrene	mg/kg	0.1	0.1
Carcinogenic PAHs, BaP TEQ, <LOR=0	TEQ	0.2	-
2-acetylaminofluorene	mg/kg	0.5	<0.5
7,12-dimethyl-benz(a)anthracene	mg/kg	0.5	<0.5
3-methylcholanthrene	mg/kg	0.5	<0.5
Aldrin	mg/kg	0.1	<0.1
Alpha-BHC	mg/kg	0.1	<0.1
Beta-BHC	mg/kg	0.5	<0.5
Delta-BHC	mg/kg	0.1	<0.1
Gamma-BHC (Lindane)	mg/kg	0.1	<0.1
p,p-DDD	mg/kg	0.1	<0.1
p,p-DDE	mg/kg	0.1	<0.1
p,p-DDT	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Alpha-endosulfan	mg/kg	0.2	<0.2
Beta-endosulfan	mg/kg	0.2	<0.2
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin	mg/kg	0.2	<0.2
Heptachlor	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1
Alpha-chlordane	mg/kg	0.1	<0.1
Gamma-chlordane	mg/kg	0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Bromophos ethyl	mg/kg	0.2	<0.2
Carbophenothion	mg/kg	0.5	<0.5
Chlorfenvinphos-cis	mg/kg	2	<2
Chlorfenvinphos-trans	mg/kg	0.5	<0.5
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Chlorpyrifos-methyl	mg/kg	0.5	<0.5
Co-Ral (Coumaphos)	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Dichlorvos	mg/kg	0.5	<0.5
Demeton-S-methyl	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5



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Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Disulfoton (Di-syston)	mg/kg	0.5	<0.5
EPN*	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Ethoprophos (ethoprop or prophos)	mg/kg	0.5	<0.5
Famphur (Famophos)	mg/kg	0.5	<0.5
Fenamiphos (Phenamiphos)	mg/kg	0.5	<0.5
Fenchlorophos (Ronnel)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Fenthion	mg/kg	0.5	<0.5
Malathion (Maldison)	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Mevinphos-cis/trans	mg/kg	1	<1
o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5
Parathion ethyl (Parathion)	mg/kg	0.2	<0.2
Parathion methyl	mg/kg	0.5	<0.5
Phorate	mg/kg	0.5	<0.5
Pirimiphos-ethyl	mg/kg	0.5	<0.5
Pirimiphos-methyl	mg/kg	0.5	<0.5
Profenofos	mg/kg	0.5	<0.5
Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5
Sulfotepp	mg/kg	0.5	<0.5
Tetrachlorvinphos (Stirophos)*	mg/kg	0.5	<0.5
PCB Congener C28	mg/kg	0.1	<0.1
PCB Congener C52	mg/kg	0.1	<0.1
PCB Congener C101	mg/kg	0.1	<0.1
PCB Congener C118	mg/kg	0.1	<0.1
PCB Congener C138	mg/kg	0.1	<0.1
PCB Congener C153	mg/kg	0.1	<0.1
PCB Congener C180	mg/kg	0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	1	<1
Hexachloroethane	mg/kg	0.5	<0.5
Hexachloropropene	mg/kg	0.5	<0.5
Pentachlorobenzene	mg/kg	0.5	<0.5
Pentachloroethane	mg/kg	0.5	<0.5
1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1
1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5
1/2-Chloronaphthalene	mg/kg	1	<1
1,2,4-trichlorobenzene	mg/kg	0.5	<0.5
Bis(2-ethylhexyl)phthalate	mg/kg	5	<5
Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5
Butyl benzyl phthalate	mg/kg	0.5	<0.5
Di-n-butyl phthalate	mg/kg	0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5
Dimethyl phthalate	mg/kg	0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5
Carbofuran	mg/kg	0.5	<0.5
Carbaryl	mg/kg	0.5	<0.5
Trifluralin	mg/kg	0.5	<0.5
N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5
N-nitroso-diethylamine (NDEA)	mg/kg	1	<1
N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5



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Full 8270 SVOC in Soil [AN420] Tested: 25/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5
N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5
N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1
4-amino biphenyl	mg/kg	1	<1
Acetophenone	mg/kg	0.5	<0.5
1,3-dinitrobenzene	mg/kg	1	<1
2,4-dinitrotoluene	mg/kg	0.5	<0.5
2,6-dinitrotoluene	mg/kg	0.5	<0.5
Isophorone	mg/kg	0.5	<0.5
Nitrobenzene	mg/kg	0.5	<0.5
p-(dimethylamino) azobenzene	mg/kg	1	<1
Phenacetin	mg/kg	1	<1
Pentachloronitrobenzene (quintozene)	mg/kg	0.5	<0.5
Aniline	mg/kg	3	<3
4-chloroaniline	mg/kg	1	<1
2-nitroaniline	mg/kg	1	<1
3-nitroaniline	mg/kg	1	<1
4-nitroaniline	mg/kg	1	<1
Diphenylamine	mg/kg	0.5	<0.5
o-toluidine	mg/kg	1	<1
5-nitro-o-toluidine	mg/kg	1	<1
1-naphthylamine	mg/kg	1	<1
2-naphthylamine	mg/kg	1	<1
Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5
Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5
Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5
4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5
4-bromophenyl phenyl ether	mg/kg	0.5	<0.5
Methyl methanesulfonate	mg/kg	1	<1
Ethyl methanesulfonate	mg/kg	1	<1
Dibenzofuran	mg/kg	0.5	<0.5
Benzyl alcohol	mg/kg	1	<1
Safrole	mg/kg	0.5	<0.5
Isosafrole Isomer 1	mg/kg	1	<1
Isosafrole Isomer 2	mg/kg	1	<1
1,4-naphthoquinone	mg/kg	0.5	<0.5
Thionazin	mg/kg	1	<1
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5
2,4,5-trichlorophenol	mg/kg	0.5	<0.5
4-chloro-3-methylphenol	mg/kg	2	<2
2-chlorophenol	mg/kg	0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5
Phenol	mg/kg	0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5
Pentachlorophenol	mg/kg	0.5	<0.5
4-nitrophenol	mg/kg	1	<1
Carcinogenic PAHs, BaP TEQ, <LOR=LOR*	TEQ (mg/kg)	0.3	-
Carcinogenic PAHs, BaP TEQ, <LOR=LOR/2*	TEQ (mg/kg)	0.2	-
2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5



ANALYTICAL RESULTS

SE149361 R1

Speciated Phenols in Soil [AN420] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2



ANALYTICAL RESULTS

SE149361 R1

Speciated Phenols in Soil [AN420] Tested: 25/2/2016 (continued)

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Phenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1	<1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5	<1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1	<1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1	<1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2	<2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2	<2	<2	<2

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	Dup 04
			SOIL	SOIL
			16/2/2016 SE149361.017	16/2/2016 SE149361.022
Phenol	mg/kg	0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2



ANALYTICAL RESULTS

SE149361 R1

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 29/2/2016

			GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01 1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	16/2/2016	17/2/2016	17/2/2016	17/2/2016
			SE149361.001	SE149361.002	SE149361.004	SE149361.005	SE149361.006
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	3	<3	5	6	5	4
Cadmium, Cd	mg/kg	0.3	0.3	0.3	0.4	0.4	0.4
Chromium, Cr	mg/kg	0.3	12	11	11	8.4	14
Copper, Cu	mg/kg	0.5	64	24	21	20	24
Lead, Pb	mg/kg	1	7	17	19	20	14
Nickel, Ni	mg/kg	0.5	41	10	11	10	36
Zinc, Zn	mg/kg	0.5	72	44	44	55	41

			GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			17/2/2016	15/2/2016	15/2/2016	15/2/2016	15/2/2016
			SE149361.007	SE149361.008	SE149361.009	SE149361.010	SE149361.011
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	3	5	6	5	6	6
Cadmium, Cd	mg/kg	0.3	0.3	0.4	<0.3	0.5	0.4
Chromium, Cr	mg/kg	0.3	15	11	7.2	25	9.3
Copper, Cu	mg/kg	0.5	11	23	23	22	32
Lead, Pb	mg/kg	1	20	18	14	21	28
Nickel, Ni	mg/kg	0.5	6.8	12	8.1	8.6	18
Zinc, Zn	mg/kg	0.5	23	53	40	46	82

			GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	13/2/2016	16/2/2016	16/2/2016	16/2/2016
			SE149361.012	SE149361.013	SE149361.014	SE149361.015	SE149361.016
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	3	<3	4	<3	6	<3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.3	3.4	8.2	8.5	11	9.9
Copper, Cu	mg/kg	0.5	67	17	13	16	90
Lead, Pb	mg/kg	1	7	13	13	21	11
Nickel, Ni	mg/kg	0.5	3.7	5.4	29	5.3	20
Zinc, Zn	mg/kg	0.5	33	34	26	28	50

			GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	15/2/2016	15/2/2016	15/2/2016	15/2/2016
			SE149361.017	SE149361.018	SE149361.019	SE149361.020	SE149361.021
PARAMETER	UOM	LOR					
Arsenic, As	mg/kg	3	9	7	7	6	7
Cadmium, Cd	mg/kg	0.3	0.6	0.5	0.5	0.4	0.5
Chromium, Cr	mg/kg	0.3	9.2	14	11	12	13
Copper, Cu	mg/kg	0.5	14	15	18	19	16
Lead, Pb	mg/kg	1	18	21	19	21	20
Nickel, Ni	mg/kg	0.5	14	8.0	13	10	9.0
Zinc, Zn	mg/kg	0.5	70	43	54	49	46



ANALYTICAL RESULTS

SE149361 R1

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 29/2/2016 (continued)

			Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
PARAMETER	UOM	LOR	
Arsenic, As	mg/kg	3	<3
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.3	8.4
Copper, Cu	mg/kg	0.5	50
Lead, Pb	mg/kg	1	4
Nickel, Ni	mg/kg	0.5	20
Zinc, Zn	mg/kg	0.5	28



ANALYTICAL RESULTS

SE149361 R1

Mercury in Soil [AN312] Tested: 26/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.001	16/2/2016 SE149361.002	17/2/2016 SE149361.004	17/2/2016 SE149361.005	17/2/2016 SE149361.006
Mercury	mg/kg	0.01	0.01	0.02	0.02	0.01	0.01

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			17/2/2016 SE149361.007	15/2/2016 SE149361.008	15/2/2016 SE149361.009	15/2/2016 SE149361.010	15/2/2016 SE149361.011
Mercury	mg/kg	0.01	0.03	0.03	0.02	0.02	<0.01

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.012	13/2/2016 SE149361.013	16/2/2016 SE149361.014	16/2/2016 SE149361.015	16/2/2016 SE149361.016
Mercury	mg/kg	0.01	<0.01	0.02	<0.01	0.02	<0.01

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.017	15/2/2016 SE149361.018	15/2/2016 SE149361.019	15/2/2016 SE149361.020	15/2/2016 SE149361.021
Mercury	mg/kg	0.01	0.02	0.02	0.02	0.03	0.02

PARAMETER	UOM	LOR	Dup 04
			SOIL
			-
			16/2/2016 SE149361.022
Mercury	mg/kg	0.01	0.01



ANALYTICAL RESULTS

SE149361 R1

Moisture Content [AN002] Tested: 25/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH01_07 3	GA-BH02_04 1	GA-BH02_06 3.5-3.9	GA-BH03_01 1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	16/2/2016	17/2/2016	17/2/2016	17/2/2016
			SE149361.001	SE149361.002	SE149361.004	SE149361.005	SE149361.006
% Moisture	%w/w	0.5	10	14	10	12	6.0

PARAMETER	UOM	LOR	GA-BH03_04 1	GA-BH04_01 0.1	GA-BH04_06 3.5-3.9	GA-BH05_01 0.1	GA-BH05_05 3.5-3.9
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			17/2/2016	15/2/2016	15/2/2016	15/2/2016	15/2/2016
			SE149361.007	SE149361.008	SE149361.009	SE149361.010	SE149361.011
% Moisture	%w/w	0.5	13	6.8	18	10	14

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH06_06 2.5-2.9	GA-BH07_01 0.1	GA-BH07_05 2.0-2.4	GA-BH08_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	13/2/2016	16/2/2016	16/2/2016	16/2/2016
			SE149361.012	SE149361.013	SE149361.014	SE149361.015	SE149361.016
% Moisture	%w/w	0.5	7.1	20	9.6	19	16

PARAMETER	UOM	LOR	GA-BH-08_07 5.0-5.4	GA-HA01-001 0.0-0.1	GA-HA01-001 0.5-0.6	GA-HA03-001 0-0.1	GA-HA03-002 0.9-1.0
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016	15/2/2016	15/2/2016	15/2/2016	15/2/2016
			SE149361.017	SE149361.018	SE149361.019	SE149361.020	SE149361.021
% Moisture	%w/w	0.5	21	17	17	12	17

PARAMETER	UOM	LOR	Dup 04
			SOIL
			-
			16/2/2016
			SE149361.022
% Moisture	%w/w	0.5	4.4



ANALYTICAL RESULTS

SE149361 R1

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH01_01 0.1	GA-BH02_01 0.1	GA-BH03_0.1	GA-BH04_01 0.1	GA-BH05_01 0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.001	17/2/2016 SE149361.003	17/2/2016 SE149361.006	15/2/2016 SE149361.008	15/2/2016 SE149361.010
Total Sample Weight*	g	1	1077	938	1195	1290	1165
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-

PARAMETER	UOM	LOR	GA-BH06_01 0.1	GA-BH07_01 0.1	GA-BH08_01 0.1	GA-HA01-001 0.0-0.1	GA-HA03-001 0-0.1
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			16/2/2016 SE149361.012	16/2/2016 SE149361.014	16/2/2016 SE149361.016	15/2/2016 SE149361.018	15/2/2016 SE149361.020
Total Sample Weight*	g	1	1477	1039	1074	822	1065
ACM in >7mm Sample*	g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-	-	-	-



ANALYTICAL RESULTS

SE149361 R1

VOCs in Water [AN433/AN434] Tested: 23/2/2016

			RINSATE_150216	RINSATE_160216	TRIP SPIKE
			WATER	WATER	WATER
			-	-	-
			17/2/2016	17/2/2016	17/2/2016
			SE149361.023	SE149361.024	SE149361.026
PARAMETER	UOM	LOR			
Benzene	µg/L	0.5	<0.5	<0.5	[93%]
Toluene	µg/L	0.5	<0.5	<0.5	[80%]
Ethylbenzene	µg/L	0.5	<0.5	<0.5	[81%]
m/p-xylene	µg/L	1	<1	<1	[84%]
o-xylene	µg/L	0.5	<0.5	<0.5	[86%]
Total Xylenes	µg/L	1.5	<1.5	<1.5	-
Total BTEX	µg/L	3	<3	<3	-
Naphthalene	µg/L	0.5	<0.5	<0.5	-



ANALYTICAL RESULTS

SE149361 R1

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 23/2/2016

			RINSATE_150216	RINSATE_160216	TRIP BLANK
			WATER	WATER	WATER
			-	-	-
			17/2/2016	17/2/2016	17/2/2016
			SE149361.023	SE149361.024	SE149361.025
PARAMETER	UOM	LOR			
TRH C6-C9	µg/L	40	<40	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50



ANALYTICAL RESULTS

SE149361 R1

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 23/2/2016

			RINSATE_150216	RINSATE_160216
			WATER	WATER
			-	-
			17/2/2016	17/2/2016
			SE149361.023	SE149361.024
PARAMETER	UOM	LOR		
TRH C10-C14	µg/L	50	<50	<50
TRH C15-C28	µg/L	200	<200	<200
TRH C29-C36	µg/L	200	<200	<200
TRH C37-C40	µg/L	200	<200	<200
TRH >C10-C16 (F2)	µg/L	60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500
TRH C10-C36	µg/L	450	<450	<450
TRH C10-C40	µg/L	650	<650	<650



ANALYTICAL RESULTS

SE149361 R1

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 25/2/2016

			RINSATE_150216	RINSATE_160216
			WATER	WATER
			-	-
			17/2/2016	17/2/2016
			SE149361.023	SE149361.024
PARAMETER	UOM	LOR		
Lead, Pb	µg/L	1	<1	<1

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	AMO = Amosite CRY = Chrysotile CRO = Crocidolite



AN605

Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the $\pm$ sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at <http://www.sgs.com/en/terms-and-conditions>. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE149528 R0

CLIENT DETAILS

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Order Number (Not specified)
Samples 7

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SGS Reference **SE149528 R0**
Date Received 29 Feb 2016
Date Reported 07 Mar 2016

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Matrix Spike	Trace Metals (Dissolved) in Water by ICPMS	1 item

SAMPLE SUMMARY

Sample counts by matrix	6 Water, 1 Soil	Type of documentation received	COC
Date documentation received	29/2/2016	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	0.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE149528 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016
GA-BH04	SE149528.002	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016
GA-BH05	SE149528.003	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016
GA-BH08	SE149528.004	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016
QC100	SE149528.005	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016
RINSATE	SE149528.006	LB096353	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096354	26 Feb 2016	29 Feb 2016	25 Mar 2016	03 Mar 2016	25 Mar 2016	04 Mar 2016

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096101	26 Feb 2016	29 Feb 2016	11 Mar 2016	29 Feb 2016	05 Mar 2016	04 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096128	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	07 Mar 2016

OC Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH04	SE149528.002	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH05	SE149528.003	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH08	SE149528.004	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
QC100	SE149528.005	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
RINSATE	SE149528.006	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096128	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	04 Mar 2016

OP Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016
GA-BH04	SE149528.002	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016
GA-BH05	SE149528.003	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016
GA-BH08	SE149528.004	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016
QC100	SE149528.005	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016
RINSATE	SE149528.006	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	07 Mar 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096128	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	04 Mar 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH04	SE149528.002	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH05	SE149528.003	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH08	SE149528.004	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
QC100	SE149528.005	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
RINSATE	SE149528.006	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096128	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	07 Mar 2016



HOLDING TIME SUMMARY

SE149528 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH04	SE149528.002	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH05	SE149528.003	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
GA-BH08	SE149528.004	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
QC100	SE149528.005	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016
RINSATE	SE149528.006	LB096092	26 Feb 2016	29 Feb 2016	04 Mar 2016	29 Feb 2016	09 Apr 2016	04 Mar 2016

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096318	26 Feb 2016	29 Feb 2016	24 Aug 2016	03 Mar 2016	24 Aug 2016	04 Mar 2016

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016
GA-BH04	SE149528.002	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016
GA-BH05	SE149528.003	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016
GA-BH08	SE149528.004	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016
QC100	SE149528.005	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016
RINSATE	SE149528.006	LB096191	26 Feb 2016	29 Feb 2016	24 Aug 2016	01 Mar 2016	24 Aug 2016	03 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096107	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	04 Mar 2016

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH04	SE149528.002	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH05	SE149528.003	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH08	SE149528.004	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
QC100	SE149528.005	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
RINSATE	SE149528.006	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
TRIP BLANK	SE149528.007	LB096107	26 Feb 2016	29 Feb 2016	11 Mar 2016	01 Mar 2016	10 Apr 2016	04 Mar 2016

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-BH02	SE149528.001	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH04	SE149528.002	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH05	SE149528.003	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
GA-BH08	SE149528.004	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
QC100	SE149528.005	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016
RINSATE	SE149528.006	LB096180	26 Feb 2016	29 Feb 2016	04 Mar 2016	01 Mar 2016	10 Apr 2016	02 Mar 2016

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides In Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	105

OC Pesticides In Water

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	89
	GA-BH04	SE149528.002	%	40 - 130%	70
	GA-BH05	SE149528.003	%	40 - 130%	75
	GA-BH08	SE149528.004	%	40 - 130%	70
	QC100	SE149528.005	%	40 - 130%	84
	RINSATE	SE149528.006	%	40 - 130%	60

OP Pesticides In Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	78
d14-p-terphenyl (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	102

OP Pesticides In Water

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	56
	GA-BH04	SE149528.002	%	40 - 130%	66
	GA-BH05	SE149528.003	%	40 - 130%	78
	GA-BH08	SE149528.004	%	40 - 130%	70
	QC100	SE149528.005	%	40 - 130%	66
	RINSATE	SE149528.006	%	40 - 130%	62
d14-p-terphenyl (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	94
	GA-BH04	SE149528.002	%	40 - 130%	86
	GA-BH05	SE149528.003	%	40 - 130%	96
	GA-BH08	SE149528.004	%	40 - 130%	108
	QC100	SE149528.005	%	40 - 130%	90
	RINSATE	SE149528.006	%	40 - 130%	82

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	TRIP BLANK	SE149528.007	%	70 - 130%	78
d14-p-terphenyl (Surrogate)	TRIP BLANK	SE149528.007	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	TRIP BLANK	SE149528.007	%	70 - 130%	76

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	56
	GA-BH04	SE149528.002	%	40 - 130%	66
	GA-BH05	SE149528.003	%	40 - 130%	78
	GA-BH08	SE149528.004	%	40 - 130%	70
	QC100	SE149528.005	%	40 - 130%	66
	RINSATE	SE149528.006	%	40 - 130%	62
d14-p-terphenyl (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	94
	GA-BH04	SE149528.002	%	40 - 130%	86
	GA-BH05	SE149528.003	%	40 - 130%	96
	GA-BH08	SE149528.004	%	40 - 130%	108
	QC100	SE149528.005	%	40 - 130%	90
	RINSATE	SE149528.006	%	40 - 130%	82
d5-nitrobenzene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	52
	GA-BH04	SE149528.002	%	40 - 130%	66
	GA-BH05	SE149528.003	%	40 - 130%	74
	GA-BH08	SE149528.004	%	40 - 130%	66
	QC100	SE149528.005	%	40 - 130%	58
	RINSATE	SE149528.006	%	40 - 130%	54

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	105

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	89
	GA-BH04	SE149528.002	%	40 - 130%	70
	GA-BH05	SE149528.003	%	40 - 130%	75
	GA-BH08	SE149528.004	%	40 - 130%	70
	QC100	SE149528.005	%	40 - 130%	84
	RINSATE	SE149528.006	%	40 - 130%	60

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	121
d8-toluene (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	81
Dibromofluoromethane (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	110

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	104
	GA-BH04	SE149528.002	%	40 - 130%	103
	GA-BH05	SE149528.003	%	40 - 130%	102
	GA-BH08	SE149528.004	%	40 - 130%	100
	QC100	SE149528.005	%	40 - 130%	104
	RINSATE	SE149528.006	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	118
	GA-BH04	SE149528.002	%	40 - 130%	115
	GA-BH05	SE149528.003	%	40 - 130%	126
	GA-BH08	SE149528.004	%	40 - 130%	123
	QC100	SE149528.005	%	40 - 130%	124
	RINSATE	SE149528.006	%	40 - 130%	115
d8-toluene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	119
	GA-BH04	SE149528.002	%	40 - 130%	116
	GA-BH05	SE149528.003	%	40 - 130%	124
	GA-BH08	SE149528.004	%	40 - 130%	128
	QC100	SE149528.005	%	40 - 130%	118
	RINSATE	SE149528.006	%	40 - 130%	125
Dibromofluoromethane (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	126
	GA-BH04	SE149528.002	%	40 - 130%	114
	GA-BH05	SE149528.003	%	40 - 130%	122
	GA-BH08	SE149528.004	%	40 - 130%	117
	QC100	SE149528.005	%	40 - 130%	120
	RINSATE	SE149528.006	%	40 - 130%	110

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	80
d4-1,2-dichloroethane (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	121
d8-toluene (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	81
Dibromofluoromethane (Surrogate)	TRIP BLANK	SE149528.007	%	60 - 130%	110

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	104
	GA-BH04	SE149528.002	%	40 - 130%	103
	GA-BH05	SE149528.003	%	40 - 130%	102
	GA-BH08	SE149528.004	%	40 - 130%	100
	QC100	SE149528.005	%	40 - 130%	104
	RINSATE	SE149528.006	%	40 - 130%	103
d4-1,2-dichloroethane (Surrogate)	GA-BH02	SE149528.001	%	60 - 130%	118
	GA-BH04	SE149528.002	%	60 - 130%	115
	GA-BH05	SE149528.003	%	60 - 130%	126
	GA-BH08	SE149528.004	%	60 - 130%	123
	QC100	SE149528.005	%	60 - 130%	124
	RINSATE	SE149528.006	%	60 - 130%	115
d8-toluene (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	119



SURROGATES

SE149528 R0

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	GA-BH04	SE149528.002	%	40 - 130%	116
	GA-BH05	SE149528.003	%	40 - 130%	124
	GA-BH08	SE149528.004	%	40 - 130%	128
	QC100	SE149528.005	%	40 - 130%	118
	RINSATE	SE149528.006	%	40 - 130%	125
Dibromofluoromethane (Surrogate)	GA-BH02	SE149528.001	%	40 - 130%	126
	GA-BH04	SE149528.002	%	40 - 130%	114
	GA-BH05	SE149528.003	%	40 - 130%	122
	GA-BH08	SE149528.004	%	40 - 130%	117
	QC100	SE149528.005	%	40 - 130%	120
	RINSATE	SE149528.006	%	40 - 130%	110



METHOD BLANKS

SE149528 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Sample Number	Parameter	Units	LOR	Result
LB096353.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB096354.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096128.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1
	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
Surrogates	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	90

OC Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096092.001	Alpha BHC	µg/L	0.1	<0.1
	Hexachlorobenzene (HCB)	µg/L	0.1	<0.1
	Beta BHC	µg/L	0.1	<0.1
	Lindane (gamma BHC)	µg/L	0.1	<0.1
	Delta BHC	µg/L	0.1	<0.1
	Heptachlor	µg/L	0.1	<0.1
	Aldrin	µg/L	0.1	<0.1
	Heptachlor epoxide	µg/L	0.1	<0.1
	Gamma Chlordane	µg/L	0.1	<0.1
	Alpha Chlordane	µg/L	0.1	<0.1
	Alpha Endosulfan	µg/L	0.1	<0.1
	p,p'-DDE	µg/L	0.1	<0.1
	Dieldrin	µg/L	0.1	<0.1
	Endrin	µg/L	0.1	<0.1
	Beta Endosulfan	µg/L	0.1	<0.1
	p,p'-DDD	µg/L	0.1	<0.1
	Endosulfan sulphate	µg/L	0.1	<0.1
	p,p'-DDT	µg/L	0.1	<0.1
	Endrin ketone	µg/L	0.1	<0.1
	Methoxychlor	µg/L	0.1	<0.1
Surrogates	Endrin aldehyde	µg/L	0.1	<0.1
	Isodrin	µg/L	0.1	<0.1
	Mirex	µg/L	0.1	<0.1



METHOD BLANKS

SE149528 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OC Pesticides in Water (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	
LB096092.001	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096128.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
Surrogates	2-fluorobiphenyl (Surrogate)	%	-	108
	d14-p-terphenyl (Surrogate)	%	-	118

OP Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096092.001	Dichlorvos	µg/L	0.5	<0.5
	Dimethoate	µg/L	0.5	<0.5
	Diazinon (Dimpylate)	µg/L	0.5	<0.5
	Fenitrothion	µg/L	0.2	<0.2
	Malathion	µg/L	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<0.2
	Parathion-ethyl (Parathion)	µg/L	0.2	<0.2
	Bromophos Ethyl	µg/L	0.2	<0.2
	Methidathion	µg/L	0.5	<0.5
	Ethion	µg/L	0.2	<0.2
	Azinphos-methyl	µg/L	0.2	<0.2
Surrogates	2-fluorobiphenyl (Surrogate)	%	-	98
	d14-p-terphenyl (Surrogate)	%	-	108

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096128.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	106
	2-fluorobiphenyl (Surrogate)	%	-	108
	d14-p-terphenyl (Surrogate)	%	-	118

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096092.001	Naphthalene	µg/L	0.1	<0.1
	2-methylnaphthalene	µg/L	0.1	<0.1
	1-methylnaphthalene	µg/L	0.1	<0.1
	Acenaphthylene	µg/L	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096092.001	Acenaphthene	µg/L	0.1	<0.1
	Fluorene	µg/L	0.1	<0.1
	Phenanthrene	µg/L	0.1	<0.1
	Anthracene	µg/L	0.1	<0.1
	Fluoranthene	µg/L	0.1	<0.1
	Pyrene	µg/L	0.1	<0.1
	Benzo(a)anthracene	µg/L	0.1	<0.1
	Chrysene	µg/L	0.1	<0.1
	Benzo(a)pyrene	µg/L	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
	Dibenzo(a,h)anthracene	µg/L	0.1	<0.1
	Benzo(ghi)perylene	µg/L	0.1	<0.1
	d5-nitrobenzene (Surrogate)	%	-	106
	2-fluorobiphenyl (Surrogate)	%	-	98
	d14-p-terphenyl (Surrogate)	%	-	108
Surrogates				

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096128.001	Arochlor 1016	mg/kg	0.2	<0.2
	Arochlor 1221	mg/kg	0.2	<0.2
	Arochlor 1232	mg/kg	0.2	<0.2
	Arochlor 1242	mg/kg	0.2	<0.2
	Arochlor 1248	mg/kg	0.2	<0.2
	Arochlor 1254	mg/kg	0.2	<0.2
	Arochlor 1260	mg/kg	0.2	<0.2
	Arochlor 1262	mg/kg	0.2	<0.2
	Arochlor 1268	mg/kg	0.2	<0.2
	Total PCBs (Arochlors)	mg/kg	1	<1
	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	90
Surrogates				

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096092.001	Arochlor 1016	µg/L	1	<1
	Arochlor 1221	µg/L	1	<1
	Arochlor 1232	µg/L	1	<1
	Arochlor 1242	µg/L	1	<1
	Arochlor 1248	µg/L	1	<1
	Arochlor 1254	µg/L	1	<1
	Arochlor 1260	µg/L	1	<1
	Arochlor 1262	µg/L	1	<1
	Arochlor 1268	µg/L	1	<1

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB096318.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB096191.001	Arsenic, As	µg/L	1	<1
	Cadmium, Cd	µg/L	0.1	<0.1
	Chromium, Cr	µg/L	1	<1
	Copper, Cu	µg/L	1	<1
	Lead, Pb	µg/L	1	<1
	Nickel, Ni	µg/L	1	<1
	Zinc, Zn	µg/L	5	<5

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result
LB096107.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1
		Toluene	mg/kg	0.1
		Ethylbenzene	mg/kg	0.1
		m/p-xylene	mg/kg	0.2
		o-xylene	mg/kg	0.1
	Polycyclic VOCs	Naphthalene	mg/kg	0.1
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-
		Bromofluorobenzene (Surrogate)	%	-
	Totals	Total BTEX	mg/kg	0.6

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result
LB096180.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5
		Toluene	µg/L	0.5
		Ethylbenzene	µg/L	0.5
		m/p-xylene	µg/L	1
		o-xylene	µg/L	0.5
	Polycyclic VOCs	Naphthalene	µg/L	0.5
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-
		Bromofluorobenzene (Surrogate)	%	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result
LB096107.001	TRH C6-C9	mg/kg	20	<20
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result
LB096180.001	TRH C6-C9	µg/L	40	<40
	Surrogates	Dibromofluoromethane (Surrogate)	%	-
		d4-1,2-dichloroethane (Surrogate)	%	-
		d8-toluene (Surrogate)	%	-
		Bromofluorobenzene (Surrogate)	%	-

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149559.008	LB096353.024	Mercury	µg/L	0.0001	<0.0001	0.0000	200	47
SE149636.003	LB096353.014	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	200

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149528.007	LB096354.014	Mercury	mg/kg	0.01	<0.01	<0.01	200	0
SE149531.009	LB096354.024	Mercury	mg/kg	0.01	0.02	0.02	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149510.012	LB096101.011	% Moisture	%w/w	0.5	17	17	36	1
SE149531.009	LB096101.022	% Moisture	%w/w	0.5	22	23	34	4
SE149531.019	LB096101.033	% Moisture	%w/w	0.5	11	12	39	7
SE149531.028	LB096101.043	% Moisture	%w/w	0.5	<0.5	<0.5	200	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149510.006	LB096128.014	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.2	<0.2	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15
SE149538.006	LB096128.024	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149538.006	LB096128.024	Dieldrin	mg/kg	0.2	<0.05	<0.05	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)		mg/kg	-	0.15	0.15

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149510.006	LB096128.014	Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	7
		d14-p-terphenyl (Surrogate)	mg/ka	-	0.5	0.5	30	6

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %		
SE149495.011	LB096128.026	Naphthalene	mg/kg	0.1	<0.1	0.04	200	0		
		2-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0		
		1-methylnaphthalene	mg/kg	0.1	<0.1	0	200	0		
		Acenaphthylene	mg/kg	0.1	0.2	0.17	89	0		
		Acenaphthene	mg/kg	0.1	<0.1	0.07	200	0		
		Fluorene	mg/kg	0.1	<0.1	0.09	155	0		
		Phenanthrene	mg/kg	0.1	1.1	1.32	38	22		
		Anthracene	mg/kg	0.1	0.3	0.23	68	23		
		Fluoranthene	mg/kg	0.1	2.1	2.12	35	3		
		Pyrene	mg/kg	0.1	2.3	2.07	35	9		
		Benzo(a)anthracene	mg/kg	0.1	1.2	1.29	38	9		
		Chrysene	mg/kg	0.1	1.2	1.27	38	8		
		Benzo(b&j)fluoranthene	mg/kg	0.1	1.6	1.76	36	7		
		Benzo(k)fluoranthene	mg/kg	0.1	1.0	1.16	39	19		
		Benzo(a)pyrene	mg/kg	0.1	1.7	1.82	36	7		
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	1.4	1.48	37	8		
		Dibenzo(a&h)anthracene	mg/kg	0.1	0.2	0.23	75	9		
		Benzo(ghi)perylene	mg/kg	0.1	1.2	1.37	38	12		
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	2.4	2.6364	18	8		
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	2.4	2.6364	22	8		
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	2.4	2.6364	18	8		
		Total PAH (18)	mg/kg	0.8	15	16.2	35	6		
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.53	30	2	
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.52	30	4	
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	8	
		SE149510.006	LB096128.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	148	0
				2-methylnaphthalene	mg/kg	0.1	0.2	0.2	89	12
				1-methylnaphthalene	mg/kg	0.1	0.3	0.2	72	8
				Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149510.006	LB096128.014	Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	0.2	0.2	74	4
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	197	0
		Pyrene	mg/kg	0.1	0.1	<0.1	130	10
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	197	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	146	0
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	7
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	7
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149510.006	LB096128.014	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	30	5

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149531.008	LB096318.024	Arsenic, As	mg/kg	3	4	6	49	40
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	153	0
		Chromium, Cr	mg/kg	0.3	12	15	34	24
		Copper, Cu	mg/kg	0.5	12	12	34	5
		Lead, Pb	mg/kg	1	16	21	35	30
		Nickel, Ni	mg/kg	0.5	6.6	7.4	37	11
		Zinc, Zn	mg/kg	0.5	30	33	36	10

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149563.003	LB096191.024	Copper, Cu	µg/L	1	0.003	0.003	55	1
		Zinc, Zn	µg/L	5	<0.005	0.004	146	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149531.009	LB096107.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	5.8	50	0
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.4	6.4	50	1

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149531.009	LB096107.014	Surrogates	d8-toluene (Surrogate)	mg/kg	-	4.2	4.3	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.4	4.3	50
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200
SE149531.025	LB096107.025	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200
			Toluene	mg/kg	0.1	<0.1	<0.1	200
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200
			o-xylene	mg/kg	0.1	<0.1	<0.1	200
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.3	5.4	50
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	6.1	50
			d8-toluene (Surrogate)	mg/kg	-	3.8	4.0	50
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.9	50
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149531.009	LB096107.014	Surrogates	TRH C6-C10	mg/kg	25	<25	<25	200
			TRH C6-C9	mg/kg	20	<20	<20	200
			Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	5.8	30
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.4	6.4	30
			d8-toluene (Surrogate)	mg/kg	-	4.2	4.3	30
		VPH F Bands	Bromofluorobenzene (Surrogate)	mg/kg	-	4.4	4.3	30
			Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200
SE149531.025	LB096107.025	Surrogates	TRH C6-C10	mg/kg	25	<25	<25	200
			TRH C6-C9	mg/kg	20	<20	<20	200
			Dibromofluoromethane (Surrogate)	mg/kg	-	5.3	5.4	30
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.8	6.1	30
			d8-toluene (Surrogate)	mg/kg	-	3.8	4.0	30
		VPH F Bands	Bromofluorobenzene (Surrogate)	mg/kg	-	4.2	3.9	30
			Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096354.002	Mercury	mg/kg	0.01	0.19	0.2	70 - 130	95

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096128.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	100
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	101
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	108
	Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	101
	Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	93
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	97
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.15	40 - 130	93

OC Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096092.002	Delta BHC	µg/L	0.1	0.2	0.2	60 - 140	107
	Heptachlor	µg/L	0.1	0.2	0.2	60 - 140	100
	Aldrin	µg/L	0.1	0.2	0.2	60 - 140	96
	Dieldrin	µg/L	0.1	0.2	0.2	60 - 140	98
	Endrin	µg/L	0.1	0.2	0.2	60 - 140	109
	p,p'-DDT	µg/L	0.1	0.2	0.2	60 - 140	92
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	µg/L	-	0.15	0.15	40 - 130	101

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096128.002	Dichlorvos	mg/kg	0.5	1.9	2	60 - 140	94
	Diazinon (Dimpylate)	mg/kg	0.5	2.3	2	60 - 140	117
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.0	2	60 - 140	102
	Ethion	mg/kg	0.2	1.7	2	60 - 140	86
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

OP Pesticides in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096092.002	Dichlorvos	µg/L	0.5	8.0	8	60 - 140	100
	Diazinon (Dimpylate)	µg/L	0.5	7.9	8	60 - 140	99
	Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	5.9	8	60 - 140	74
	Ethion	µg/L	0.2	6.7	8	60 - 140	84
	Surrogates						
	2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	84

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096128.002	Naphthalene	mg/kg	0.1	4.1	4	60 - 140	104
	Acenaphthylene	mg/kg	0.1	4.8	4	60 - 140	121
	Acenaphthene	mg/kg	0.1	4.3	4	60 - 140	108
	Phenanthrene	mg/kg	0.1	4.3	4	60 - 140	107
	Anthracene	mg/kg	0.1	4.2	4	60 - 140	106
	Fluoranthene	mg/kg	0.1	3.2	4	60 - 140	80
	Pyrene	mg/kg	0.1	3.4	4	60 - 140	84
	Benzo(a)pyrene	mg/kg	0.1	4.5	4	60 - 140	112
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	106
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	94

PAH (Polynuclear Aromatic Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096092.002	Naphthalene	µg/L	0.1	30	40	60 - 140	76
	Acenaphthylene	µg/L	0.1	38	40	60 - 140	96
	Acenaphthene	µg/L	0.1	40	40	60 - 140	100
	Phenanthrene	µg/L	0.1	41	40	60 - 140	103
	Anthracene	µg/L	0.1	36	40	60 - 140	89
	Fluoranthene	µg/L	0.1	41	40	60 - 140	101

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096092.002	Pyrene	µg/L	0.1	38	40	60 - 140	95
	Benzo(a)pyrene	µg/L	0.1	39	40	60 - 140	98
	d5-nitrobenzene (Surrogate)	µg/L	-	0.4	0.5	40 - 130	76
	2-fluorobiphenyl (Surrogate)	µg/L	-	0.3	0.5	40 - 130	68
	d14-p-terphenyl (Surrogate)	µg/L	-	0.4	0.5	40 - 130	84

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096128.002	Arochlor 1260	mg/kg	0.2	0.5	0.4	60 - 140	113

PCBs in Water

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096092.002	Arochlor 1260	µg/L	1	<1	0.4	60 - 140	104

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096318.002	Arsenic, As	mg/kg	3	50	50	80 - 120	100
	Cadmium, Cd	mg/kg	0.3	51	50	80 - 120	103
	Chromium, Cr	mg/kg	0.3	50	50	80 - 120	100
	Copper, Cu	mg/kg	0.5	51	50	80 - 120	102
	Lead, Pb	mg/kg	1	50	50	80 - 120	101
	Nickel, Ni	mg/kg	0.5	51	50	80 - 120	101
	Zinc, Zn	mg/kg	0.5	50	50	80 - 120	100

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096191.002	Arsenic, As	µg/L	1	19	20	80 - 120	94
	Cadmium, Cd	µg/L	0.1	20	20	80 - 120	102
	Chromium, Cr	µg/L	1	21	20	80 - 120	106
	Copper, Cu	µg/L	1	22	20	80 - 120	110
	Lead, Pb	µg/L	1	21	20	80 - 120	104
	Nickel, Ni	µg/L	1	22	20	80 - 120	108
	Zinc, Zn	µg/L	5	22	20	80 - 120	108

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096107.002	Monocyclic	Benzene	mg/kg	0.1	2.9	60 - 140	100
		Toluene	mg/kg	0.1	2.7	60 - 140	92
		Ethylbenzene	mg/kg	0.1	2.6	60 - 140	91
		m/p-xylene	mg/kg	0.2	5.6	60 - 140	96
		o-xylene	mg/kg	0.1	3.0	60 - 140	104
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	5.8	60 - 140	116
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.3	60 - 140	125
		d8-toluene (Surrogate)	mg/kg	-	4.5	60 - 140	90
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.3	60 - 140	126

VOCs in Water

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096180.002	Monocyclic	Benzene	µg/L	0.5	51	45.45	60 - 140	112
		Aromatic	Toluene	µg/L	0.5	51	45.45	60 - 140
		Ethylbenzene	µg/L	0.5	51	45.45	60 - 140	112
		m/p-xylene	µg/L	1	100	90.9	60 - 140	112
		o-xylene	µg/L	0.5	51	45.45	60 - 140	112
	Surrogates	Dibromofluoromethane (Surrogate)	µg/L	-	5.0	5	60 - 140	100
		d4-1,2-dichloroethane (Surrogate)	µg/L	-	5.0	5	60 - 140	100
		d8-toluene (Surrogate)	µg/L	-	5.2	5	60 - 140	104
		Bromofluorobenzene (Surrogate)	µg/L	-	5.2	5	60 - 140	103

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR



LABORATORY CONTROL SAMPLES

SE149528 R0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096107.002	TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	92
	TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	74
	Surrogates	Dibromofluoromethane (Surrogate)	-	5.8	5	60 - 140	116
		d4-1,2-dichloroethane (Surrogate)	-	6.3	5	60 - 140	125
		d8-toluene (Surrogate)	-	4.5	5	60 - 140	90
		Bromofluorobenzene (Surrogate)	-	6.3	5	60 - 140	126
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	25	<25	7.25	60 - 140	81

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096180.002	TRH C6-C10	µg/L	50	940	946.63	60 - 140	99
	TRH C6-C9	µg/L	40	770	818.71	60 - 140	94
	Surrogates	Dibromofluoromethane (Surrogate)	-	5.0	5	60 - 140	100
		d4-1,2-dichloroethane (Surrogate)	-	5.0	5	60 - 140	100
		d8-toluene (Surrogate)	-	5.2	5	60 - 140	104
		Bromofluorobenzene (Surrogate)	-	5.2	5	60 - 140	103
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	50	630	639.67	60 - 140	99

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096354.004	Mercury	mg/kg	0.01	0.20	<0.01	0.2	98

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096128.025	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	103
		Aldrin	mg/kg	0.1	0.2	<0.1	0.2	104
		Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	112
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	0.2	<0.2	0.2	104
		Endrin	mg/kg	0.2	<0.2	<0.2	0.2	98
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	0.2	<0.1	0.2	101
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	<0.1	-	-
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.14	0.14	-	93

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096128.025	Dichlorvos	mg/kg	0.5	1.8	<0.5	2	89
		Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
		Diazinon (Dimpylate)	mg/kg	0.5	2.1	<0.5	2	105
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
		Malathion	mg/kg	0.2	<0.2	<0.2	-	-
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	2.2	<0.2	2	110
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
		Methodathion	mg/kg	0.5	<0.5	<0.5	-	-
		Ethion	mg/kg	0.2	2.1	<0.2	2	106
		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	98
	Surrogates							

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096128.025	Naphthalene	mg/kg	0.1	4.5	<0.1	4	112
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Acenaphthylene	mg/kg	0.1	4.7	<0.1	4	116
		Acenaphthene	mg/kg	0.1	4.5	<0.1	4	112
		Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
		Phenanthrene	mg/kg	0.1	4.7	<0.1	4	116
		Anthracene	mg/kg	0.1	4.9	<0.1	4	120
		Fluoranthene	mg/kg	0.1	5.0	<0.1	4	124

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096128.025	Pyrene	mg/kg	0.1	4.6	<0.1	4	115
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(a)pyrene	mg/kg	0.1	5.0	<0.1	4	125
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
		Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	5.0	<0.2	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	5.2	<0.3	-	-
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	5.1	<0.2	-	-
		Total PAH (18)	mg/kg	0.8	38	<0.8	-	-
		Surrogates						
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	-	80
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	-	80
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	98

PCBs in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096128.025	Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1260	mg/kg	0.2	0.4	<0.2	0.4	109
		Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
		Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
		Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates						
		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0	0	-	95

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149510.003	LB096318.004	Arsenic, As	mg/kg	3	50	<3	50	100
		Cadmium, Cd	mg/kg	0.3	51	<0.3	50	101
		Chromium, Cr	mg/kg	0.3	50	0.5	50	100
		Copper, Cu	mg/kg	0.5	52	1.3	50	102
		Lead, Pb	mg/kg	1	54	6	50	97
		Nickel, Ni	mg/kg	0.5	52	<0.5	50	103
		Zinc, Zn	mg/kg	0.5	86	49	50	75

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149528.001	LB096191.004	Arsenic, As	µg/L	1	22	<1	20	107
		Cadmium, Cd	µg/L	0.1	20	<0.1	20	102
		Chromium, Cr	µg/L	1	20	<1	20	101
		Copper, Cu	µg/L	1	20	<1	20	97
		Lead, Pb	µg/L	1	21	<1	20	102
		Nickel, Ni	µg/L	1	24	4	20	100
		Zinc, Zn	µg/L	5	150	140	20	65 ☹

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149531.001	LB096107.026	Monocyclic						
		Benzene	mg/kg	0.1	2.7	<0.1	2.9	94
		Aromatic						
		Toluene	mg/kg	0.1	2.3	<0.1	2.9	80
		Ethylbenzene	mg/kg	0.1	2.2	<0.1	2.9	76
		m/p-xylene	mg/kg	0.2	5.8	<0.2	5.8	99
		o-xylene	mg/kg	0.1	2.7	<0.1	2.9	92
		Polycyclic						
		Naphthalene	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates						
		Dibromofluoromethane (Surrogate)	mg/kg	-	6.2	5.5	-	124
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.6	6.0	-	132
		d8-toluene (Surrogate)	mg/kg	-	4.7	4.1	-	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.6	4.2	-	131



MATRIX SPIKES

SE149528 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149531.001	LB096107.026	Totals	Total Xylenes*	mg/kg	0.3	8.4	<0.3	-
			Total BTEX	mg/kg	0.6	16	<0.6	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149531.001	LB096107.026	TRH C6-C10	mg/kg	25	<25	<25	24.65	91
		TRH C6-C9	mg/kg	20	<20	<20	23.2	84
		Surrogates						
		Dibromofluoromethane (Surrogate)	mg/kg	-	6.2	5.5	-	124
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	6.6	6.0	-	132
		d8-toluene (Surrogate)	mg/kg	-	4.7	4.1	-	95
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.6	4.2	-	131
		VPH F						
		Benzene (F0)	mg/kg	0.1	2.7	<0.1	-	-
		Bands						
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	93



MATRIX SPIKE DUPLICATES

SE149528 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here : <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service .
- Sample not analysed for this analyte.

IS Insufficient sample for analysis.
 LNR Sample listed, but not received.
 LOR Limit of reporting.
 QFH QC result is above the upper tolerance.
 QFL QC result is below the lower tolerance.

- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to Analytical Report comments for further information.

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SGS Reference **SE149528 R0**
 Date Received **29/2/2016**
 Date Reported **7/3/2016**

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

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ANALYTICAL RESULTS

SE149528 R0

VOC's in Soil [AN433/AN434] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6
Naphthalene	mg/kg	0.1	<0.1



ANALYTICAL RESULTS

SE149528 R0

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25



ANALYTICAL RESULTS

SE149528 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(a&h)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8



ANALYTICAL RESULTS

SE149528 R0

OC Pesticides in Soil [AN400/AN420] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1
Lindane	mg/kg	0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1
Aldrin	mg/kg	0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2
Endrin	mg/kg	0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1
Isodrin	mg/kg	0.1	<0.1
Mirex	mg/kg	0.1	<0.1



ANALYTICAL RESULTS

SE149528 R0

OP Pesticides in Soil [AN400/AN420] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Dichlorvos	mg/kg	0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2
Malathion	mg/kg	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2
Methidathion	mg/kg	0.5	<0.5
Ethion	mg/kg	0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2



ANALYTICAL RESULTS

SE149528 R0

PCBs in Soil [AN400/AN420] Tested: 1/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Arochlor 1016	mg/kg	0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1



ANALYTICAL RESULTS

SE149528 R0

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 3/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Arsenic, As	mg/kg	3	<3
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.3	0.4
Copper, Cu	mg/kg	0.5	<0.5
Lead, Pb	mg/kg	1	<1
Nickel, Ni	mg/kg	0.5	<0.5
Zinc, Zn	mg/kg	0.5	0.7



ANALYTICAL RESULTS

SE149528 R0

Mercury in Soil [AN312] Tested: 3/3/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
Mercury	mg/kg	0.01	<0.01



ANALYTICAL RESULTS

SE149528 R0

Moisture Content [AN002] Tested: 29/2/2016

			TRIP BLANK
			SOIL
			-
			26/2/2016
			SE149528.007
PARAMETER	UOM	LOR	
% Moisture	%w/w	0.5	15



ANALYTICAL RESULTS

SE149528 R0

VOCs in Water [AN433/AN434] Tested: 1/3/2016

			GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			26/2/2016	26/2/2016	26/2/2016	26/2/2016	26/2/2016
			SE149528.001	SE149528.002	SE149528.003	SE149528.004	SE149528.005
PARAMETER	UOM	LOR					
Benzene	µg/L	0.5	<0.5	<0.5	<2.5†	<0.5	<0.5
Toluene	µg/L	0.5	<0.5	1.3	8.0	<0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5	5.3	2.6	<0.5	<0.5
m/p-xylene	µg/L	1	<1	<1	<5†	<1	<1
o-xylene	µg/L	0.5	1.7	36	8.3	2.5	1.5
Total Xylenes	µg/L	1.5	2.5	36	11	2.7	2.4
Total BTEX	µg/L	3	3	43	22	4	3
Naphthalene	µg/L	0.5	<0.5	<0.5	<2.5†	<0.5	<0.5

			RINSATE
			WATER
			-
			26/2/2016
			SE149528.006
PARAMETER	UOM	LOR	
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene	µg/L	0.5	<0.5



ANALYTICAL RESULTS

SE149528 R0

Volatile Petroleum Hydrocarbons in Water [AN433/AN434/AN410] Tested: 1/3/2016

			GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER - 26/2/2016 SE149528.001	WATER - 26/2/2016 SE149528.002	WATER - 26/2/2016 SE149528.003	WATER - 26/2/2016 SE149528.004	WATER - 26/2/2016 SE149528.005
PARAMETER	UOM	LOR					
TRH C6-C9	µg/L	40	<40	<40	<200 †	<40	<40
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<2.5 †	<0.5	<0.5
TRH C6-C10	µg/L	50	<50	200	<250 †	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	160	<250 †	<50	<50

			RINSATE
			WATER - 26/2/2016 SE149528.006
PARAMETER	UOM	LOR	
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50



ANALYTICAL RESULTS

SE149528 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Water [AN420] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			26/2/2016 SE149528.001	26/2/2016 SE149528.002	26/2/2016 SE149528.003	26/2/2016 SE149528.004	26/2/2016 SE149528.005
Naphthalene	µg/L	0.1	<0.1	<0.1	0.5	0.2	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1	<0.1	0.5	<0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1	<0.1	0.4	<0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a&h)anthracene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAH (18)	µg/L	1	<1	<1	1	<1	<1

PARAMETER	UOM	LOR	RINSATE
			WATER
			26/2/2016 SE149528.006
Naphthalene	µg/L	0.1	<0.1
2-methylnaphthalene	µg/L	0.1	<0.1
1-methylnaphthalene	µg/L	0.1	<0.1
Acenaphthylene	µg/L	0.1	<0.1
Acenaphthene	µg/L	0.1	<0.1
Fluorene	µg/L	0.1	<0.1
Phenanthrene	µg/L	0.1	<0.1
Anthracene	µg/L	0.1	<0.1
Fluoranthene	µg/L	0.1	<0.1
Pyrene	µg/L	0.1	<0.1
Benzo(a)anthracene	µg/L	0.1	<0.1
Chrysene	µg/L	0.1	<0.1
Benzo(b&j)fluoranthene	µg/L	0.1	<0.1
Benzo(k)fluoranthene	µg/L	0.1	<0.1
Benzo(a)pyrene	µg/L	0.1	<0.1
Indeno(1,2,3-cd)pyrene	µg/L	0.1	<0.1
Dibenzo(a&h)anthracene	µg/L	0.1	<0.1
Benzo(ghi)perylene	µg/L	0.1	<0.1
Total PAH (18)	µg/L	1	<1



ANALYTICAL RESULTS

SE149528 R0

OC Pesticides in Water [AN400/AN420] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			26/2/2016 SE149528.001	26/2/2016 SE149528.002	26/2/2016 SE149528.003	26/2/2016 SE149528.004	26/2/2016 SE149528.005
Alpha BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gamma Chlordane	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDD	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149528 R0

OC Pesticides in Water [AN400/AN420] Tested: 29/2/2016 (continued)

			RINSATE
			WATER
			-
			26/2/2016
PARAMETER	UOM	LOR	SE149528.006
Alpha BHC	µg/L	0.1	<0.1
Hexachlorobenzene (HCB)	µg/L	0.1	<0.1
Beta BHC	µg/L	0.1	<0.1
Lindane (gamma BHC)	µg/L	0.1	<0.1
Delta BHC	µg/L	0.1	<0.1
Heptachlor	µg/L	0.1	<0.1
Aldrin	µg/L	0.1	<0.1
Heptachlor epoxide	µg/L	0.1	<0.1
Gamma Chlordane	µg/L	0.1	<0.1
Alpha Chlordane	µg/L	0.1	<0.1
Alpha Endosulfan	µg/L	0.1	<0.1
o,p'-DDE	µg/L	0.1	<0.1
p,p'-DDE	µg/L	0.1	<0.1
Dieldrin	µg/L	0.1	<0.1
Endrin	µg/L	0.1	<0.1
Beta Endosulfan	µg/L	0.1	<0.1
o,p'-DDD	µg/L	0.1	<0.1
p,p'-DDD	µg/L	0.1	<0.1
Endosulfan sulphate	µg/L	0.1	<0.1
o,p'-DDT	µg/L	0.1	<0.1
p,p'-DDT	µg/L	0.1	<0.1
Endrin ketone	µg/L	0.1	<0.1
Methoxychlor	µg/L	0.1	<0.1
trans-Nonachlor	µg/L	0.1	<0.1
Endrin aldehyde	µg/L	0.1	<0.1
Isodrin	µg/L	0.1	<0.1
Mirex	µg/L	0.1	<0.1



ANALYTICAL RESULTS

SE149528 R0

OP Pesticides in Water [AN400/AN420] Tested: 29/2/2016

PARAMETER	UOM	LOR	GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			26/2/2016 SE149528.001	26/2/2016 SE149528.002	26/2/2016 SE149528.003	26/2/2016 SE149528.004	26/2/2016 SE149528.005
Dichlorvos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

PARAMETER	UOM	LOR	RINSATE
			WATER
			-
			26/2/2016 SE149528.006
Dichlorvos	µg/L	0.5	<0.5
Dimethoate	µg/L	0.5	<0.5
Diazinon (Dimpylate)	µg/L	0.5	<0.5
Fenitrothion	µg/L	0.2	<0.2
Malathion	µg/L	0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<0.2
Parathion-ethyl (Parathion)	µg/L	0.2	<0.2
Bromophos Ethyl	µg/L	0.2	<0.2
Methidathion	µg/L	0.5	<0.5
Ethion	µg/L	0.2	<0.2
Azinphos-methyl	µg/L	0.2	<0.2



ANALYTICAL RESULTS

SE149528 R0

PCBs in Water [AN400/AN420] Tested: 29/2/2016

			GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			26/2/2016	26/2/2016	26/2/2016	26/2/2016	26/2/2016
			SE149528.001	SE149528.002	SE149528.003	SE149528.004	SE149528.005
PARAMETER	UOM	LOR					
Arochlor 1016	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1221	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1232	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1242	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1248	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1254	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1260	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1262	µg/L	1	<1	<1	<1	<1	<1
Arochlor 1268	µg/L	1	<1	<1	<1	<1	<1
Total Arochlors*	µg/L	5	<5	<5	<5	<5	<5

			RINSATE
			WATER
			-
			26/2/2016
			SE149528.006
PARAMETER	UOM	LOR	
Arochlor 1016	µg/L	1	<1
Arochlor 1221	µg/L	1	<1
Arochlor 1232	µg/L	1	<1
Arochlor 1242	µg/L	1	<1
Arochlor 1248	µg/L	1	<1
Arochlor 1254	µg/L	1	<1
Arochlor 1260	µg/L	1	<1
Arochlor 1262	µg/L	1	<1
Arochlor 1268	µg/L	1	<1
Total Arochlors*	µg/L	5	<5



ANALYTICAL RESULTS

SE149528 R0

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 1/3/2016

			GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			26/2/2016	26/2/2016	26/2/2016	26/2/2016	26/2/2016
			SE149528.001	SE149528.002	SE149528.003	SE149528.004	SE149528.005
PARAMETER	UOM	LOR					
Arsenic, As	µg/L	1	<1	<1	2	<1	<1
Cadmium, Cd	µg/L	0.1	<0.1	0.3	<0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1	<1	<1	<1
Copper, Cu	µg/L	1	<1	<1	<1	<1	<1
Lead, Pb	µg/L	1	<1	<1	<1	<1	<1
Nickel, Ni	µg/L	1	4	10	6	5	4
Zinc, Zn	µg/L	5	140	60	230	100	150

			RINSATE
			WATER
			-
			26/2/2016
			SE149528.006
PARAMETER	UOM	LOR	
Arsenic, As	µg/L	1	<1
Cadmium, Cd	µg/L	0.1	<0.1
Chromium, Cr	µg/L	1	<1
Copper, Cu	µg/L	1	<1
Lead, Pb	µg/L	1	<1
Nickel, Ni	µg/L	1	<1
Zinc, Zn	µg/L	5	<5



ANALYTICAL RESULTS

SE149528 R0

Mercury (dissolved) in Water [AN311/AN312] Tested: 3/3/2016

			GA-BH02	GA-BH04	GA-BH05	GA-BH08	QC100
			WATER	WATER	WATER	WATER	WATER
			-	-	-	-	-
			26/2/2016	26/2/2016	26/2/2016	26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528.001	SE149528.002	SE149528.003	SE149528.004	SE149528.005
Mercury	mg/L	0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001

			RINSATE
			WATER
			-
			26/2/2016
PARAMETER	UOM	LOR	SE149528.006
Mercury	mg/L	0.0001	<0.0001

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.



FOOTNOTES

SE149528 R0

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the $\pm$ sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

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AU.SampleReceipt.Sydney (Sydney)

From: Dudley, James [JDudley@golder.com.au]
Sent: Monday, 7 March 2016 11:45 AM
To: Ellerington, Trent (Sydney); AU.SampleReceipt.Sydney (Sydney)
Cc: Sandy, Natalie; Stratton, Greg
Subject: RE: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Hi Trent,

Just a quick clarification on this batch. The two soil samples listed on the COC are GA-HA03 and GA-HA04. In this case, GA-HA03 should actually read GA-HA02. This should be reflected by the nomenclatures adopted on the labelled jars.

Can you please ensure that GA-HA02 and GA-HA04 are adopted during reporting?

Cheers

James Dudley (BE (Hons)) | Environmental Engineer | Golder Associates Pty Ltd
124 Pacific Highway, St. Leonards, New South Wales 2065, Australia (PO Box 1302, Crows Nest NSW 1585)
T: +61 2 9478 3900 | D: +61 2 9478 3630 | F: +61 2 9478 3901 | M: +61 448 403 609 | E: JDudley@golder.com.au | www.golder.com

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SGS Alexandria Environmental



SE149528A COC
Received: 02 – Mar – 2016

From: Ellerington, Trent (Sydney) [mailto:Trent.Ellerington@sgs.com]
Sent: Wednesday, 2 March 2016 10:45 AM
To: Dudley, James; AU.SampleReceipt.Sydney (Sydney)
Cc: Sandy, Natalie; Stratton, Greg
Subject: RE: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Hi James,

We will book in the additional analysis listed below, please let me know if you need the results faster than standard TAT.

Warm Regards,

Trent Ellerington
Environment, Health & Safety
Customer Service Team Leader

Phone: +61 (0)2 8594 0400
Direct: +61 (0)2 8594 0449
Mobile: +61 (0)4 0797 2867

From: Dudley, James [<mailto:JDudley@golder.com.au>]
Sent: Wednesday, 2 March 2016 9:54 AM
To: Ellerington, Trent (Sydney)
Cc: Sandy, Natalie; Stratton, Greg
Subject: RE: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Trent,

Can you please schedule GA-HA03 and GA-HA04 for the following analytes:

- Asbestos (NEPM);
- TRH;
- BTEXN;
- PAHs;
- Phenols;
- VOCs;
- sVOCs;
- OCPs/OPPs; and
- Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc).

Please let me know if there are any questions or issues.

Cheers,

James

-----Original Message-----

From: Stratton, Greg
Sent: Wednesday, 2 March 2016 9:09 AM
To: Dudley, James
Subject: FW: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Can you follow up with Nat, and get these soil samples scheduled.

SRN looks odd - not sure if all samples have been listed on COC

Greg Stratton (MEnvMgt, BSc, MEIANZ) | Principal Environmental Scientist | Golder Associates Pty Ltd
124 Pacific Highway, St. Leonards, New South Wales 2065, Australia (PO Box 1302, Crows Nest NSW 1585)
T: +61 2 9478 3900 | D: +61 2 9478 3610 | F: +61 2 9478 3901 | M: +61 467 298 255 | E: GStratton@golder.com.au
| www.golder.com

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-----Original Message-----

From: Stratton, Greg

Sent: Tuesday, 1 March 2016 12:45 PM

To: Sandy, Natalie

Cc: Dudley, James

Subject: FW: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Nat - can we discuss scheduling the soil samples.

Will give you a call this afternoon.

Cheers

Greg

Greg Stratton (MEnvMgt, BSc, MEIANZ) | Principal Environmental Scientist | Golder Associates Pty Ltd
124 Pacific Highway, St. Leonards, New South Wales 2065, Australia (PO Box 1302, Crows Nest NSW 1585)
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-----Original Message-----

From: AU.Samplerreceipt.Sydney@SGS.com [mailto:AU.Samplerreceipt.Sydney@SGS.com]

Sent: Tuesday, 1 March 2016 12:19 PM

To: Stratton, Greg; Sandy, Natalie

Subject: SGS Sample Receipt Advice (Ref: 1648232 Culverston Rd Minto, Lab Ref: SE149528)

Dear Greg Stratton,

Please be advised we have received samples for analysis as detailed in the attached documentation.

Best regards,

SGS Alexandria Sample Administration Team

SGS Australia Pty Ltd

Phone: +61 (0)2 8594 0400

Fax: +61 (0)2 8594 0499

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STATEMENT OF QA/QC PERFORMANCE

SE149528A R0

CLIENT DETAILS

Contact James Dudley
Client GOLDER ASSOCIATES PTY LTD
Address PO BOX 1302
CROWS NEST NSW 1585

Telephone 02 9478 3900 / 02 9478 3902
Facsimile 02 9478 3901
Email jdudley@golder.com.au

Project **1648232 Culverston Rd Minto- Additional**
Order Number (Not specified)
Samples 9

LABORATORY DETAILS

Manager Huong Crawford
Laboratory SGS Alexandria Environmental
Address Unit 16, 33 Maddox St
Alexandria NSW 2015

Telephone +61 2 8594 0400
Facsimile +61 2 8594 0499
Email au.environmental.sydney@sgs.com

SGS Reference **SE149528A R0**
Date Received 02 Mar 2016
Date Reported 09 Mar 2016

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document and was supplied by the Client.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met (within the SGS Alexandria Environmental laboratory).

SAMPLE SUMMARY

Sample counts by matrix	2 Soil	Type of documentation received	Email
Date documentation received	2/3/16@10:45am	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	0.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice	Samples clearly labelled	Yes
Complete documentation received	Yes		



HOLDING TIME SUMMARY

SE149528A R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

Full 8270 SVOC in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016

Gravimetric Determination of Asbestos in Soil

Method: ME-(AU)-[ENV]AN605

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096699	26 Feb 2016	02 Mar 2016	24 Aug 2016	08 Mar 2016	24 Aug 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096699	26 Feb 2016	02 Mar 2016	24 Aug 2016	08 Mar 2016	24 Aug 2016	09 Mar 2016

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096562	26 Feb 2016	02 Mar 2016	25 Mar 2016	07 Mar 2016	25 Mar 2016	08 Mar 2016
GA-HA04	SE149528A.009	LB096562	26 Feb 2016	02 Mar 2016	25 Mar 2016	07 Mar 2016	25 Mar 2016	08 Mar 2016

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096425	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	09 Mar 2016	07 Mar 2016
GA-HA04	SE149528A.009	LB096425	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	09 Mar 2016	07 Mar 2016

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096496	26 Feb 2016	02 Mar 2016	24 Aug 2016	04 Mar 2016	24 Aug 2016	08 Mar 2016
GA-HA04	SE149528A.009	LB096496	26 Feb 2016	02 Mar 2016	24 Aug 2016	04 Mar 2016	24 Aug 2016	08 Mar 2016

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016
GA-HA04	SE149528A.009	LB096404	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	08 Mar 2016

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096447	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096447	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
GA-HA02	SE149528A.008	LB096447	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016
GA-HA04	SE149528A.009	LB096447	26 Feb 2016	02 Mar 2016	11 Mar 2016	04 Mar 2016	13 Apr 2016	09 Mar 2016

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Full 8270 SVOC In Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-tribromophenol (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	74
	GA-HA04	SE149528A.009	%	70 - 130%	84
2-fluorobiphenyl (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	100
	GA-HA04	SE149528A.009	%	70 - 130%	102
d14-p-terphenyl (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	102
	GA-HA04	SE149528A.009	%	70 - 130%	104
d5-nitrobenzene (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	86
	GA-HA04	SE149528A.009	%	70 - 130%	88
d5-phenol (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	71
	GA-HA04	SE149528A.009	%	70 - 130%	83

OC Pesticides In Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	107
	GA-HA04	SE149528A.009	%	60 - 130%	101

OP Pesticides In Soil

Method: ME-(AU)-[ENV]AN400/AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	78
	GA-HA04	SE149528A.009	%	60 - 130%	84
d14-p-terphenyl (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	92
	GA-HA04	SE149528A.009	%	60 - 130%	102

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	78
	GA-HA04	SE149528A.009	%	70 - 130%	84
d14-p-terphenyl (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	92
	GA-HA04	SE149528A.009	%	70 - 130%	102
d5-nitrobenzene (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	70
	GA-HA04	SE149528A.009	%	70 - 130%	78

Speciated Phenols In Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2,4,6-Tribromophenol (Surrogate)	GA-HA02	SE149528A.008	%	70 - 130%	74
	GA-HA04	SE149528A.009	%	70 - 130%	84
d5-phenol (Surrogate)	GA-HA02	SE149528A.008	%	50 - 130%	71
	GA-HA04	SE149528A.009	%	50 - 130%	83

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	96
	GA-HA04	SE149528A.009	%	60 - 130%	98
d4-1,2-dichloroethane (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	90
	GA-HA04	SE149528A.009	%	60 - 130%	93
d8-toluene (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	94
	GA-HA04	SE149528A.009	%	60 - 130%	98
Dibromofluoromethane (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	83
	GA-HA04	SE149528A.009	%	60 - 130%	85

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	106
	GA-HA04	SE149528A.009	%	60 - 130%	109
d4-1,2-dichloroethane (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	85
	GA-HA04	SE149528A.009	%	60 - 130%	88
d8-toluene (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	92
	GA-HA04	SE149528A.009	%	60 - 130%	95
Dibromofluoromethane (Surrogate)	GA-HA02	SE149528A.008	%	60 - 130%	79
	GA-HA04	SE149528A.009	%	60 - 130%	81



METHOD BLANKS

SE149528A R0

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Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC In Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	01-PAHs	Acenaphthene	mg/kg	0.1
		Acenaphthylene	mg/kg	0.1
		Anthracene	mg/kg	0.1
		Benzo(a)anthracene	mg/kg	0.1
		Benzo(b&j&k)fluoranthene	mg/kg	0.2
		Benzo(ghi)perylene	mg/kg	0.1
		Benzo(a)pyrene	mg/kg	0.1
		Chrysene	mg/kg	0.1
		Dibenzo(ah)anthracene	mg/kg	0.1
		Fluoranthene	mg/kg	0.1
		Fluorene	mg/kg	0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1
		1-methylnaphthalene	mg/kg	0.1
		2-methylnaphthalene	mg/kg	0.1
		Naphthalene	mg/kg	0.1
		Phenanthrene	mg/kg	0.1
		Pyrene	mg/kg	0.1
		2-acetylamino fluorene	mg/kg	0.5
		7,12-dimethyl-benz(a)anthracene	mg/kg	0.5
		3-methylcholanthrene	mg/kg	0.5
	02-OCs	Aldrin	mg/kg	0.1
		Alpha-BHC	mg/kg	0.1
		Beta-BHC	mg/kg	0.5
		Delta-BHC	mg/kg	0.1
		Gamma-BHC (Lindane)	mg/kg	0.1
		p,p-DDD	mg/kg	0.1
		p,p-DDE	mg/kg	0.1
		p,p-DDT	mg/kg	0.1
		Dieldrin	mg/kg	0.2
		Alpha-endosulfan	mg/kg	0.2
		Beta-endosulfan	mg/kg	0.2
		Endosulfan sulphate	mg/kg	0.1
		Endrin	mg/kg	0.2
		Heptachlor	mg/kg	0.1
		Heptachlor epoxide	mg/kg	0.1
		Isodrin	mg/kg	0.1
		Methoxychlor	mg/kg	0.1
		Mirex	mg/kg	0.1
		Alpha-chlordane	mg/kg	0.1
	03-OPs	Gamma-chlordane	mg/kg	0.1
		Endrin ketone	mg/kg	0.1
		Azinphos-methyl (Guthion)	mg/kg	0.2
		Bromophos ethyl	mg/kg	0.2
		Carbophenothion	mg/kg	0.5
		Chlorfenvinphos-cis	mg/kg	2
		Chlorfenvinphos-trans	mg/kg	0.5
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2
		Chlorpyrifos-methyl	mg/kg	0.5
		Co-Ral (Coumaphos)	mg/kg	0.5
		Diazinon (Dimpylate)	mg/kg	0.5
		Dichlorvos	mg/kg	0.5
		Demeton-S-methyl	mg/kg	0.5
		Dimethoate	mg/kg	0.5
		Disulfoton (Di-syston)	mg/kg	0.5
		EPN*	mg/kg	0.5
		Ethion	mg/kg	0.2
		Ethoprophos (ethoprop or prophos)	mg/kg	0.5
		Famphur (Famophos)	mg/kg	0.5
		Fenamiphos (Phenamiphos)	mg/kg	0.5
		Fenchlorophos (Ronneil)	mg/kg	0.5
		Fenitrothion	mg/kg	0.2



METHOD BLANKS

SE149528A R0

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Full 8270 SVOC In Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB096404.001	03-OPs	Fenthion	mg/kg	0.5	<0.5
		Malathion (Maldison)	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Mevinphos-cis/trans	mg/kg	1	<1
		o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5
		Parathion ethyl (Parathion)	mg/kg	0.2	<0.2
		Parathion methyl	mg/kg	0.5	<0.5
		Phorate	mg/kg	0.5	<0.5
		Pirimiphos-ethyl	mg/kg	0.5	<0.5
		Pirimiphos-methyl	mg/kg	0.5	<0.5
		Profenofos	mg/kg	0.5	<0.5
		Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5
		Sulfotepp	mg/kg	0.5	<0.5
		Tetrachlorvinphos (Stiropfos)*	mg/kg	0.5	<0.5
	04-PCB UPAC(7)	PCB Congener C28	mg/kg	0.1	<0.1
	Congeners	PCB Congener C52	mg/kg	0.1	<0.1
		PCB Congener C101	mg/kg	0.1	<0.1
		PCB Congener C118	mg/kg	0.1	<0.1
		PCB Congener C138	mg/kg	0.1	<0.1
		PCB Congener C153	mg/kg	0.1	<0.1
		PCB Congener C180	mg/kg	0.1	<0.1
		05-SVCH (CI Benzenes, Hydrocarbons & VOCs)	Hexachlorobenzene (HCB)	mg/kg	0.1
	1,2-dichlorobenzene	mg/kg	0.5	<0.5	
	1,3-dichlorobenzene	mg/kg	0.5	<0.5	
	1,4-dichlorobenzene	mg/kg	0.5	<0.5	
	Hexachlorobutadiene	mg/kg	0.5	<0.5	
	Hexachlorocyclopentadiene	mg/kg	1	<1	
	Hexachloroethane	mg/kg	0.5	<0.5	
	Hexachloropropene	mg/kg	0.5	<0.5	
	Pentachlorobenzene	mg/kg	0.5	<0.5	
	Pentachloroethane	mg/kg	0.5	<0.5	
	1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1	
	1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5	
	1/2-Chloronaphthalene	mg/kg	1	<1	
	1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	
	06-Phthalates	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5
		Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5
		Butyl benzyl phthalate	mg/kg	0.5	<0.5
		Di-n-butyl phthalate	mg/kg	0.5	<0.5
		Diethyl phthalate	mg/kg	0.5	<0.5
		Dimethyl phthalate	mg/kg	0.5	<0.5
		Diocetyl phthalate	mg/kg	0.5	<0.5
	07-Carbamates	Carbofuran	mg/kg	0.5	<0.5
		Carbaryl	mg/kg	0.5	<0.5
	08-Herbicides (normal)	Trifluralin	mg/kg	0.5	<0.5
	09-Nitrosamines	N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5
		N-nitroso-diethylamine (NDEA)	mg/kg	1	<1
		N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5
		N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5
		N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5
N-nitroso-pyrrolidine (NPYR)		mg/kg	1	<1	
4-amino biphenyl		mg/kg	1	<1	
10-Nitroaromatics and Ketones	Acetophenone	mg/kg	0.5	<0.5	
	1,3-dinitrobenzene	mg/kg	1	<1	
	2,4-dinitrotoluene	mg/kg	0.5	<0.5	
	2,6-dinitrotoluene	mg/kg	0.5	<0.5	
	Isophorone	mg/kg	0.5	<0.5	
	Nitrobenzene	mg/kg	0.5	<0.5	
	p-(dimethylamino) azobenzene	mg/kg	1	<1	
	Phenacetin	mg/kg	1	<1	
	Pentachloronitrobenzene (quintozene)	mg/kg	0.5	<0.5	

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Full 8270 SVOC In Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	11-Anilines and Amines	Aniline	mg/kg	3
		4-chloroaniline	mg/kg	1
		2-nitroaniline	mg/kg	1
		3-nitroaniline	mg/kg	1
		4-nitroaniline	mg/kg	1
		Diphenylamine	mg/kg	0.5
		o-toluidine	mg/kg	1
		5-nitro-o-toluidine	mg/kg	1
		1-naphthylamine	mg/kg	1
		2-naphthylamine	mg/kg	1
	12-Haloethers	Bis(2-chloroethoxy) methane	mg/kg	0.5
		Bis(2-chloroethyl) ether	mg/kg	0.5
		Bis(2-chloroisopropyl) ether	mg/kg	0.5
		4-chlorophenyl phenyl ether	mg/kg	0.5
		4-bromophenyl phenyl ether	mg/kg	0.5
	13-Other SVOCs	Methyl methanesulfonate	mg/kg	1
		Ethyl methanesulfonate	mg/kg	1
		Dibenzofuran	mg/kg	0.5
		Benzyl alcohol	mg/kg	1
		Safrole	mg/kg	0.5
		Isosafrole Isomer 1	mg/kg	1
		Isosafrole Isomer 2	mg/kg	1
		1,4-naphthoquinone	mg/kg	0.5
		Thionazin	mg/kg	1
	14-Speciated Routine Phenols	3/4-methyl phenol (m/p-cresol)	mg/kg	1
		2-methyl phenol (o-cresol)	mg/kg	0.5
		2,6-dichlorophenol	mg/kg	0.5
		2,4,5-trichlorophenol	mg/kg	0.5
		4-chloro-3-methylphenol	mg/kg	2
		2-chlorophenol	mg/kg	0.5
		2,4-dichlorophenol	mg/kg	0.5
		2,4-dimethylphenol	mg/kg	0.5
		2-nitrophenol	mg/kg	0.5
		Phenol	mg/kg	0.5
	Surrogates	2,4,6-trichlorophenol	mg/kg	0.5
		Pentachlorophenol	mg/kg	0.5
		4-nitrophenol	mg/kg	1
		d5-phenol (Surrogate)	%	-
		d5-nitrobenzene (Surrogate)	%	-
		2-fluorobiphenyl (Surrogate)	%	-
		2,4,6-tribromophenol (Surrogate)	%	-
		d14-p-terphenyl (Surrogate)	%	-

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB096562.001	Mercury	mg/kg	0.01	<0.01

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
	Alpha BHC	mg/kg	0.1	<0.1
	Lindane	mg/kg	0.1	<0.1
	Heptachlor	mg/kg	0.1	<0.1
	Aldrin	mg/kg	0.1	<0.1
	Beta BHC	mg/kg	0.1	<0.1
	Delta BHC	mg/kg	0.1	<0.1
	Heptachlor epoxide	mg/kg	0.1	<0.1
	Alpha Endosulfan	mg/kg	0.2	<0.2
	Gamma Chlordane	mg/kg	0.1	<0.1
	Alpha Chlordane	mg/kg	0.1	<0.1

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OC Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	p,p'-DDE	mg/kg	0.1	<0.1
	Dieldrin	mg/kg	0.2	<0.2
	Endrin	mg/kg	0.2	<0.2
	Beta Endosulfan	mg/kg	0.2	<0.2
	p,p'-DDD	mg/kg	0.1	<0.1
	p,p'-DDT	mg/kg	0.1	<0.1
	Endosulfan sulphate	mg/kg	0.1	<0.1
	Endrin Aldehyde	mg/kg	0.1	<0.1
	Methoxychlor	mg/kg	0.1	<0.1
	Endrin Ketone	mg/kg	0.1	<0.1
	Isodrin	mg/kg	0.1	<0.1
	Mirex	mg/kg	0.1	<0.1
Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	96

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	Dichlorvos	mg/kg	0.5	<0.5
	Dimethoate	mg/kg	0.5	<0.5
	Diazinon (Dimpylate)	mg/kg	0.5	<0.5
	Fenitrothion	mg/kg	0.2	<0.2
	Malathion	mg/kg	0.2	<0.2
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
	Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Bromophos Ethyl	mg/kg	0.2	<0.2
	Methidathion	mg/kg	0.5	<0.5
	Ethion	mg/kg	0.2	<0.2
	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
	2-fluorobiphenyl (Surrogate)	%	-	88
Surrogates	d14-p-terphenyl (Surrogate)	%	-	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1
	Fluoranthene	mg/kg	0.1	<0.1
	Pyrene	mg/kg	0.1	<0.1
	Benzo(a)anthracene	mg/kg	0.1	<0.1
	Chrysene	mg/kg	0.1	<0.1
	Benzo(a)pyrene	mg/kg	0.1	<0.1
	Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
	Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
	Benzo(ghi)perylene	mg/kg	0.1	<0.1
	Total PAH (18)	mg/kg	0.8	<0.8
Surrogates	d5-nitrobenzene (Surrogate)	%	-	86
	2-fluorobiphenyl (Surrogate)	%	-	88
	d14-p-terphenyl (Surrogate)	%	-	100

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	Phenol	mg/kg	0.5	<0.5
	2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5
	3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1
	2-chlorophenol	mg/kg	0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5



METHOD BLANKS

SE149528A R0

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Speciated Phenols in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB096404.001	2,4,6-trichlorophenol	mg/kg	0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5
	4-nitrophenol	mg/kg	1	<1
	2,4,5-trichlorophenol	mg/kg	0.5	<0.5
	2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1
	Pentachlorophenol	mg/kg	0.5	<0.5
	2,4-dinitrophenol	mg/kg	2	<2
	4-chloro-3-methylphenol	mg/kg	2	<2
	Surrogates			
	2,4,6-Tribromophenol (Surrogate)	%	-	86
	d5-phenol (Surrogate)	%	-	83

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB096496.001	Arsenic, As	mg/kg	3	<3
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.3	<0.3
	Copper, Cu	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Nickel, Ni	mg/kg	0.5	<0.5
	Zinc, Zn	mg/kg	0.5	<0.5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB096404.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result
LB096447.001	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1
		1,2-dichloropropane	mg/kg	0.1	<0.1
		cis-1,3-dichloropropene	mg/kg	0.1	<0.1
		trans-1,3-dichloropropene	mg/kg	0.1	<0.1
		1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1
	Halogenated Aliphatics	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1
		Chloromethane	mg/kg	1	<1
		Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1
		Bromomethane	mg/kg	1	<1
		Chloroethane	mg/kg	1	<1
		Trichlorofluoromethane	mg/kg	1	<1
		Iodomethane	mg/kg	5	<5
		1,1-dichloroethene	mg/kg	0.1	<0.1
		Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5
		Allyl chloride	mg/kg	0.1	<0.1
		trans-1,2-dichloroethene	mg/kg	0.1	<0.1
		1,1-dichloroethane	mg/kg	0.1	<0.1
		cis-1,2-dichloroethene	mg/kg	0.1	<0.1
		Bromochloromethane	mg/kg	0.1	<0.1
		1,2-dichloroethane	mg/kg	0.1	<0.1
		1,1,1-trichloroethane	mg/kg	0.1	<0.1
		1,1-dichloropropene	mg/kg	0.1	<0.1
		Carbon tetrachloride	mg/kg	0.1	<0.1
		Dibromomethane	mg/kg	0.1	<0.1
		Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1
		1,1,2-trichloroethane	mg/kg	0.1	<0.1
		1,3-dichloropropane	mg/kg	0.1	<0.1
		Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1
		1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1
		cis-1,4-dichloro-2-butene	mg/kg	1	<1
		1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number		Parameter	Units	LOR	Result	
LB096447.001	Halogenated Aliphatics	1,2,3-trichloropropane	mg/kg	0.1	<0.1	
		trans-1,4-dichloro-2-butene	mg/kg	1	<1	
		1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	
		Hexachlorobutadiene	mg/kg	0.1	<0.1	
	Halogenated Aromatics	Chlorobenzene	mg/kg	0.1	<0.1	
		Bromobenzene	mg/kg	0.1	<0.1	
		2-chlorotoluene	mg/kg	0.1	<0.1	
		4-chlorotoluene	mg/kg	0.1	<0.1	
		1,3-dichlorobenzene	mg/kg	0.1	<0.1	
		1,4-dichlorobenzene	mg/kg	0.1	<0.1	
		1,2-dichlorobenzene	mg/kg	0.1	<0.1	
		1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	
		1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	
		Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
	Toluene		mg/kg	0.1	<0.1	
		Ethylbenzene	mg/kg	0.1	<0.1	
		m/p-xylene	mg/kg	0.2	<0.2	
		o-xylene	mg/kg	0.1	<0.1	
		Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	
		Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	
		n-propylbenzene	mg/kg	0.1	<0.1	
		1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	
		tert-butylbenzene	mg/kg	0.1	<0.1	
		1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	
		sec-butylbenzene	mg/kg	0.1	<0.1	
		p-isopropyltoluene	mg/kg	0.1	<0.1	
		n-butylbenzene	mg/kg	0.1	<0.1	
		Nitrogenous Compounds	Acrylonitrile	mg/kg	0.1	<0.1
			2-nitropropane	mg/kg	10	<10
	Oxygenated Compounds	Acetone (2-propanone)	mg/kg	10	<10	
		MTBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	
		Vinyl acetate	mg/kg	10	<10	
		MEK (2-butanone)	mg/kg	10	<10	
		MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	
		2-hexanone (MBK)	mg/kg	5	<5	
	Polycyclic VOCs	Naphthalene	mg/kg	0.1	<0.1	
	Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	
	Surrogates	Dibromofluoromethane (Surrogate)	%	-	76	
		d4-1,2-dichloroethane (Surrogate)	%	-	78	
		d8-toluene (Surrogate)	%	-	85	
		Bromofluorobenzene (Surrogate)	%	-	86	
	Totals	Total BTEX	mg/kg	0.6	<0.6	
	Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	
		Bromodichloromethane	mg/kg	0.1	<0.1	
		Chlorodibromomethane	mg/kg	0.1	<0.1	
		Bromoform	mg/kg	0.1	<0.1	

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number		Parameter	Units	LOR	Result
LB096447.001	Surrogates	TRH C6-C9	mg/kg	20	<20
		Dibromofluoromethane (Surrogate)	%	-	72
		d4-1,2-dichloroethane (Surrogate)	%	-	74
		d8-toluene (Surrogate)	%	-	81

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149678.009	LB096562.014	Mercury	mg/kg	0.01	0.03	0.03	200	0
SE149703.006	LB096562.024	Mercury	mg/kg	0.01	0.01	<0.01	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149678.009	LB096425.011	% Moisture	%w/w	0.5	8.7	8.7	41	0
SE149678.014	LB096425.015	% Moisture	%w/w	0.5	0.8	0.9	144	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149678.014	LB096404.025	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Lindane	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
		Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
		Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
		Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
		trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
		Dieldrin	mg/kg	0.2	<0.05	<0.05	200	0
		Endrin	mg/kg	0.2	<0.2	<0.2	200	0
		o,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		o,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
		p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
		p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
		Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
		Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
		Endrin Ketone	mg/kg	0.1	<0.1	<0.1	200	0
		Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
		Mirex	mg/kg	0.1	<0.1	<0.1	200	0
Surrogates		Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	1

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149666.007	LB096404.014	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	197	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	173	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149666.007	LB096404.014	Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	134	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	175	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	5
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
SE149678.014	LB096404.025	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	2
		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
		Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
		Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
		Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3	200	0
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2	200	0
		Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.4	30	3
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.4	30	2
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149678.001	LB096496.014	Arsenic, As	mg/kg	3	3	3	61	8
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	151	0
		Chromium, Cr	mg/kg	0.3	11	9.7	35	14
		Copper, Cu	mg/kg	0.5	14	13	34	9
		Lead, Pb	mg/kg	1	17	16	36	7
		Nickel, Ni	mg/kg	0.5	9.5	8.3	36	13
		Zinc, Zn	mg/kg	0.5	55	49	34	11
SE149678.014	LB096496.024	Arsenic, As	mg/kg	3	<3	<3	76	24
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.3	9.0	8.1	36	11
		Copper, Cu	mg/kg	0.5	7.7	6.5	37	16
		Lead, Pb	mg/kg	1	8	9	41	10
		Nickel, Ni	mg/kg	0.5	6.0	5.1	39	16
		Zinc, Zn	mg/kg	0.5	38	33	36	14

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149666.007	LB096404.014	TRH C10-C14	mg/kg	20	<20	<20	200	0
		TRH C15-C28	mg/kg	45	50	53	117	6
		TRH C29-C36	mg/kg	45	47	<45	144	4
		TRH C37-C40	mg/kg	100	<100	<100	200	0
		TRH C10-C36 Total	mg/kg	110	<110	<110	151	0
		TRH C10-C40 Total	mg/kg	210	<210	<210	200	0
		TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
		TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0



DUPLICATES

SE149528A R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149678.014	LB096404.025	TRH C10-C14	mg/kg	20	<20	<20	200	0	
		TRH C15-C28	mg/kg	45	<45	<45	200	0	
		TRH C29-C36	mg/kg	45	<45	<45	200	0	
		TRH C37-C40	mg/kg	100	<100	<100	200	0	
		TRH C10-C36 Total	mg/kg	110	<110	<110	200	0	
		TRH C10-C40 Total	mg/kg	210	<210	<210	200	0	
		TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %	
SE149528A.009	LB096447.006	Fumigants	2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1	200	0	
			cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0	
			trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1	200	0	
			1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1	200	0	
		Halogenated	Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1	200	0	
			Aliphatics	Chloromethane	mg/kg	1	<1	<1	200	0
		Vinyl chloride (Chloroethene)		mg/kg	0.1	<0.1	<0.1	200	0	
		Bromomethane		mg/kg	1	<1	<1	200	0	
		Chloroethane		mg/kg	1	<1	<1	200	0	
		Trichlorofluoromethane		mg/kg	1	<1	<1	200	0	
		Iodomethane		mg/kg	5	<5	<5	200	0	
		1,1-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0	
		Dichloromethane (Methylene chloride)		mg/kg	0.5	<0.5	<0.5	200	0	
		Allyl chloride		mg/kg	0.1	<0.1	<0.1	200	0	
		trans-1,2-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0	
		1,1-dichloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		cis-1,2-dichloroethene		mg/kg	0.1	<0.1	<0.1	200	0	
		Bromochloromethane		mg/kg	0.1	<0.1	<0.1	200	0	
		1,2-dichloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		1,1,1-trichloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		1,1-dichloropropene		mg/kg	0.1	<0.1	<0.1	200	0	
		Carbon tetrachloride		mg/kg	0.1	<0.1	<0.1	200	0	
		Dibromomethane		mg/kg	0.1	<0.1	<0.1	200	0	
		Trichloroethene (Trichloroethylene -TCE)		mg/kg	0.1	<0.1	<0.1	200	0	
		1,1,2-trichloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		1,3-dichloropropane		mg/kg	0.1	<0.1	<0.1	200	0	
		Tetrachloroethene (Perchloroethylene,PCE)		mg/kg	0.1	<0.1	<0.1	200	0	
		1,1,1,2-tetrachloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		cis-1,4-dichloro-2-butene		mg/kg	1	<1	<1	200	0	
		1,1,2,2-tetrachloroethane		mg/kg	0.1	<0.1	<0.1	200	0	
		1,2,3-trichloropropane		mg/kg	0.1	<0.1	<0.1	200	0	
		trans-1,4-dichloro-2-butene		mg/kg	1	<1	<1	200	0	
		1,2-dibromo-3-chloropropane		mg/kg	0.1	<0.1	<0.1	200	0	
		Hexachlorobutadiene		mg/kg	0.1	<0.1	<0.1	200	0	
		Halogenated		Chlorobenzene	mg/kg	0.1	<0.1	<0.1	200	0
				Aromatics	Bromobenzene	mg/kg	0.1	<0.1	<0.1	200
		2-chlorotoluene			mg/kg	0.1	<0.1	<0.1	200	0
		4-chlorotoluene			mg/kg	0.1	<0.1	<0.1	200	0
		1,3-dichlorobenzene			mg/kg	0.1	<0.1	<0.1	200	0
		1,4-dichlorobenzene			mg/kg	0.1	<0.1	<0.1	200	0
		1,2-dichlorobenzene	mg/kg		0.1	<0.1	<0.1	200	0	
		1,2,4-trichlorobenzene	mg/kg		0.1	<0.1	<0.1	200	0	
		1,2,3-trichlorobenzene	mg/kg		0.1	<0.1	<0.1	200	0	
		Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0	
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0	
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0	
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0	

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149528A.009	LB096447.006	Monocyclic	o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Aromatic	Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1	200	0
			Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1	200	0
			n-propylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			tert-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			sec-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1	200	0
			n-butylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
		Nitrogenous	Acrylonitrile	mg/kg	0.1	<0.1	<0.1	200	0
		Compounds	2-nitropropane	mg/kg	10	<10	<10	200	0
		Oxygenated	Acetone (2-propanone)	mg/kg	10	<10	<10	200	0
		Compounds	MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1	200	0
			Vinyl acetate	mg/kg	10	<10	<10	200	0
			MEK (2-butanone)	mg/kg	10	<10	<10	200	0
			MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1	200	0
			2-hexanone (MBK)	mg/kg	5	<5	<5	200	0
		Polycyclic	Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
		Sulphonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	200	0
		Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.2	3.8	50	11
			d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.7	4.2	50	11
			d8-toluene (Surrogate)	mg/kg	-	4.9	4.5	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	4.9	4.8	50	3
		Totals	Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
			Total BTEX	mg/kg	0.6	<0.6	<0.6	200	0
		Trihalomethanes	Chloroform	mg/kg	0.1	<0.1	<0.1	200	0
			Bromodichloromethane	mg/kg	0.1	<0.1	<0.1	200	0
			Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1	200	0
			Bromoform	mg/kg	0.1	<0.1	<0.1	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE149528A.009	LB096447.006	TRH C6-C10	mg/kg	25	<25	<25	200	0
		TRH C6-C9	mg/kg	20	<20	<20	200	0
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.1	3.6	30	11
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.4	4.0	30	11
		d8-toluene (Surrogate)	mg/kg	-	4.7	4.4	30	7
		Bromofluorobenzene (Surrogate)	mg/kg	-	5.5	5.2	30	5
	VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
		TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Full 8270 SVOC in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %	
LB096404.002	01-PAHs	Acenaphthene	mg/kg	0.1	4.6	4	70 - 130	115
		Acenaphthylene	mg/kg	0.1	4.3	4	70 - 130	107
		Anthracene	mg/kg	0.1	4.4	4	70 - 130	109
		Benzo(a)pyrene	mg/kg	0.1	5.1	4	70 - 130	127
		Fluoranthene	mg/kg	0.1	4.5	4	70 - 130	114
		Naphthalene	mg/kg	0.1	4.6	4	70 - 130	114
		Phenanthrene	mg/kg	0.1	4.3	4	70 - 130	108
	02-OCs	Pyrene	mg/kg	0.1	4.1	4	70 - 130	103
		Aldrin	mg/kg	0.1	0.7	1	70 - 130	73
		Delta-BHC	mg/kg	0.1	0.8	1	70 - 130	77
		p,p-DDT	mg/kg	0.1	0.7	1	70 - 130	73
		Dieldrin	mg/kg	0.2	0.8	1	70 - 130	79
		Endrin	mg/kg	0.2	1.0	1	70 - 130	104
		Heptachlor	mg/kg	0.1	0.9	1	70 - 130	85
	03-OPs	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	2	70 - 130	91
		Diazinon (Dimpylate)	mg/kg	0.5	1.5	2	70 - 130	74
		Dichlorvos	mg/kg	0.5	1.6	2	70 - 130	82
		Ethion	mg/kg	0.2	1.4	2	70 - 130	70
	05-SVCH (CI Benzenes,	Hexachlorobenzene (HCB)	mg/kg	0.1	1.2	1	70 - 130	120
		Hexachlorobutadiene	mg/kg	0.5	1.2	1	70 - 130	120
		Hexachloroethane	mg/kg	0.5	1.1	1	70 - 130	109
		Pentachlorobenzene	mg/kg	0.5	1.2	1	70 - 130	119
		1,2,3,4-tetrachlorobenzene	mg/kg	0.5	1.2	1	70 - 130	119
	06-Phthalates	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	4	70 - 130	121
		Butyl benzyl phthalate	mg/kg	0.5	4.1	4	70 - 130	102
		Di-n-butyl phthalate	mg/kg	0.5	4.1	4	70 - 130	104
		Diethyl phthalate	mg/kg	0.5	4.1	4	70 - 130	103
		Dimethyl phthalate	mg/kg	0.5	4.2	4	70 - 130	105
		Dioctyl phthalate	mg/kg	0.5	4.7	4	70 - 130	118
	07-Carbamates	Carbofuran	mg/kg	0.5	1.0	1	70 - 130	100
	09-Nitrosamine	N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	1.7	2	70 - 130	83
	10-Nitroaromati	Pentachloronitrobenzene (quintozone)	mg/kg	0.5	0.9	1	70 - 130	89
14-Speciati	2,4-dichlorophenol	mg/kg	0.5	0.9	1	70 - 130	91	
	Routine	Phenol	mg/kg	0.5	1.0	1	70 - 130	100
		2,4,6-trichlorophenol	mg/kg	0.5	0.9	1	70 - 130	85
		Pentachlorophenol	mg/kg	0.5	1.0	1	70 - 130	97
	Surrogates	d5-phenol (Surrogate)	mg/kg	-	1.8	2	40 - 130	90
d5-nitrobenzene (Surrogate)		mg/kg	-	0.4	0.5	40 - 130	86	
2-fluorobiphenyl (Surrogate)		mg/kg	-	0.5	0.5	40 - 130	92	
2,4,6-tribromophenol (Surrogate)		mg/kg	-	4.3	5	40 - 130	87	
d14-p-terphenyl (Surrogate)		mg/kg	-	0.4	0.5	40 - 130	82	

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096562.002	Mercury	mg/kg	0.01	0.19	0.2	70 - 130	96

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096404.002	Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	99
	Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	94
	Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	92
	Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	90
	Endrin	mg/kg	0.2	0.2	0.2	60 - 140	100
	p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	91
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN400/AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096404.002	Dichlorvos	mg/kg	0.5	2.0	2	60 - 140	102
	Diazinon (Dimpylate)	mg/kg	0.5	2.0	2	60 - 140	99
	Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.9	2	60 - 140	95
	Ethion	mg/kg	0.2	1.8	2	60 - 140	91
	Surrogates						
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096404.002	Naphthalene	mg/kg	0.1	4.5	4	60 - 140	112
	Acenaphthylene	mg/kg	0.1	4.6	4	60 - 140	116
	Acenaphthene	mg/kg	0.1	4.5	4	60 - 140	113
	Phenanthrene	mg/kg	0.1	4.5	4	60 - 140	113
	Anthracene	mg/kg	0.1	4.5	4	60 - 140	111
	Fluoranthene	mg/kg	0.1	4.6	4	60 - 140	114
	Pyrene	mg/kg	0.1	4.3	4	60 - 140	108
	Benzo(a)pyrene	mg/kg	0.1	5.1	4	60 - 140	127
	Surrogates						
	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	76
	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	0.5	40 - 130	82
	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	92

Speciated Phenols in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096404.002	Phenol	mg/kg	0.5	1.0	1	70 - 130	100
	2,4-dichlorophenol	mg/kg	0.5	0.9	1	70 - 130	91
	2,4,6-trichlorophenol	mg/kg	0.5	0.9	1	70 - 130	85
	Pentachlorophenol	mg/kg	0.5	1.0	1	70 - 130	97
	Surrogates						
	2,4,6-Tribromophenol (Surrogate)	mg/kg	-	4.3	5	40 - 130	87
	d5-phenol (Surrogate)	mg/kg	-	1.8	2	40 - 130	90

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096496.002	Arsenic, As	mg/kg	3	51	50	80 - 120	103
	Cadmium, Cd	mg/kg	0.3	54	50	80 - 120	108
	Chromium, Cr	mg/kg	0.3	54	50	80 - 120	107
	Copper, Cu	mg/kg	0.5	53	50	80 - 120	106
	Lead, Pb	mg/kg	1	53	50	80 - 120	106
	Nickel, Ni	mg/kg	0.5	53	50	80 - 120	106
	Zinc, Zn	mg/kg	0.5	53	50	80 - 120	106

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096404.002	TRH C10-C14	mg/kg	20	47	40	60 - 140	118
	TRH C15-C28	mg/kg	45	<45	40	60 - 140	110
	TRH C29-C36	mg/kg	45	<45	40	60 - 140	83
	TRH F Bands						
	TRH >C10-C16 (F2)	mg/kg	25	46	40	60 - 140	115
	TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	100
	TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	75

VOC's in Soil

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096447.002	Halogenated						
	1,1-dichloroethene	mg/kg	0.1	2.7	2.56	60 - 140	104
	Aliphatics						
	1,2-dichloroethane	mg/kg	0.1	2.9	2.56	60 - 140	114
	Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	2.8	2.56	60 - 140	109
	Halogenated						
	Chlorobenzene	mg/kg	0.1	3.1	2.56	60 - 140	120
	Monocyclic						
	Benzene	mg/kg	0.1	3.2	2.9	60 - 140	112
	Aromatic						
	Toluene	mg/kg	0.1	2.9	2.9	60 - 140	101
	Ethylbenzene	mg/kg	0.1	2.9	2.9	60 - 140	98
	m/p-xylene	mg/kg	0.2	5.5	5.8	60 - 140	96
	o-xylene	mg/kg	0.1	2.9	2.9	60 - 140	101
Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.4	5	60 - 140	88
	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.6	5	60 - 140	92
	d8-toluene (Surrogate)	mg/kg	-	4.7	5	60 - 140	94



LABORATORY CONTROL SAMPLES

SE149528A R0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433/AN434

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096447.002	Surrogates	Bromofluorobenzene (Surrogate)	mg/kg	-	5.2	5	60 - 140
	Trihalomethan	Chloroform	mg/kg	0.1	3.0	2.56	60 - 140

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB096447.002	TRH C6-C10	mg/kg	25	<25	24.65	60 - 140	88
	TRH C6-C9	mg/kg	20	<20	23.2	60 - 140	71
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	4.8	5	60 - 140
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	5.1	5	60 - 140
		d8-toluene (Surrogate)	mg/kg	-	5.4	5	60 - 140
		Bromofluorobenzene (Surrogate)	mg/kg	-	6.1	5	60 - 140
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	7.25	60 - 140

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149528A.00	LB096562.004	Mercury	mg/kg	0.01	0.22	0.01	0.2	101

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN400/AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%
SE149528A.00 8	LB096404.026	Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	-	-
		Alpha BHC	mg/kg	0.1	<0.1	-	-
		Lindane	mg/kg	0.1	<0.1	-	-
		Heptachlor	mg/kg	0.1	<0.1	0.2	100
		Aldrin	mg/kg	0.1	<0.1	0.2	114
		Beta BHC	mg/kg	0.1	<0.1	-	-
		Delta BHC	mg/kg	0.1	<0.1	0.2	111
		Heptachlor epoxide	mg/kg	0.1	<0.1	-	-
		o,p'-DDE	mg/kg	0.1	<0.1	-	-
		Alpha Endosulfan	mg/kg	0.2	<0.2	-	-
		Gamma Chlordane	mg/kg	0.1	<0.1	-	-
		Alpha Chlordane	mg/kg	0.1	<0.1	-	-
		trans-Nonachlor	mg/kg	0.1	<0.1	-	-
		p,p'-DDE	mg/kg	0.1	<0.1	-	-
		Dieldrin	mg/kg	0.2	<0.2	0.2	108
		Endrin	mg/kg	0.2	<0.2	0.2	111
		o,p'-DDD	mg/kg	0.1	<0.1	-	-
		o,p'-DDT	mg/kg	0.1	<0.1	-	-
		Beta Endosulfan	mg/kg	0.2	<0.2	-	-
		p,p'-DDD	mg/kg	0.1	<0.1	-	-
		p,p'-DDT	mg/kg	0.1	<0.1	0.2	82
		Endosulfan sulphate	mg/kg	0.1	<0.1	-	-
		Endrin Aldehyde	mg/kg	0.1	<0.1	-	-
		Methoxychlor	mg/kg	0.1	<0.1	-	-
		Endrin Ketone	mg/kg	0.1	<0.1	-	-
		Isodrin	mg/kg	0.1	<0.1	-	-
		Mirex	mg/kg	0.1	<0.1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	-

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE149528A.00 8	LB096404.027	Naphthalene	mg/kg	0.1	<0.1	4	112	
		2-methylnaphthalene	mg/kg	0.1	<0.1	-	-	
		1-methylnaphthalene	mg/kg	0.1	<0.1	-	-	
		Acenaphthylene	mg/kg	0.1	<0.1	4	114	
		Acenaphthene	mg/kg	0.1	<0.1	4	110	
		Fluorene	mg/kg	0.1	<0.1	-	-	
		Phenanthrene	mg/kg	0.1	<0.1	4	112	
		Anthracene	mg/kg	0.1	<0.1	4	111	
		Fluoranthene	mg/kg	0.1	<0.1	4	114	
		Pyrene	mg/kg	0.1	<0.1	4	109	
		Benzo(a)anthracene	mg/kg	0.1	<0.1	-	-	
		Chrysene	mg/kg	0.1	<0.1	-	-	
		Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	-	-	
		Benzo(k)fluoranthene	mg/kg	0.1	<0.1	-	-	
		Benzo(a)pyrene	mg/kg	0.1	<0.1	4	124	
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	-	-	
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	-	-	
		Benzo(ghi)perylene	mg/kg	0.1	<0.1	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	-	-	
		Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	-	-	
		Total PAH (18)	mg/kg	0.8	<0.8	-	-	
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	-	70
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.4	-	80

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR	Original	Spike	Recovery%	
SE149528A.00	LB096404.027	Surrogates	d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	-	92

Total Recoverable Metals in Soil by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149443A.01	LB096496.004	Nickel, Ni	mg/kg	0.5	54	1.4	50	104

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149528A.00 8	LB096404.026	TRH C10-C14	mg/kg	20	39	<20	40	98
		TRH C15-C28	mg/kg	45	<45	<45	40	93
		TRH C29-C36	mg/kg	45	<45	<45	40	75
		TRH C37-C40	mg/kg	100	<100	<100	-	-
		TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
		TRH C10-C40 Total	mg/kg	210	<210	<210	-	-
	TRH F Bands	TRH >C10-C16 (F2)	mg/kg	25	39	<25	40	98
		TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	39	<25	-	-
		TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	90
		TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433/AN434/AN410

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE149528A.00 8	LB096447.004	TRH C6-C10	mg/kg	25	<25	<25	24.65	82
		TRH C6-C9	mg/kg	20	<20	<20	23.2	66
	Surrogates	Dibromofluoromethane (Surrogate)	mg/kg	-	3.8	4.0	-	76
		d4-1,2-dichloroethane (Surrogate)	mg/kg	-	4.1	4.3	-	83
		d8-toluene (Surrogate)	mg/kg	-	4.4	4.6	-	88
		Bromofluorobenzene (Surrogate)	mg/kg	-	4.7	5.3	-	94
	VPH F	Benzene (F0)	mg/kg	0.1	2.2	<0.1	-	-
	Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	7.25	95



MATRIX SPIKE DUPLICATES

SE149528A R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: $RPD = | \text{OriginalResult} - \text{ReplicateResult} | \times 100 / \text{Mean}$

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: $MAD = 100 \times \text{SDL} / \text{Mean} + \text{LR}$

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifier when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

No matrix spike duplicates were required for this job.



Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

- * NATA accreditation does not cover the performance of this service.
- Sample not analysed for this analyte.

IS Insufficient sample for analysis.
LNR Sample listed, but not received.
LOR Limit of reporting.
QFH QC result is above the upper tolerance.
QFL QC result is below the lower tolerance.

- ① At least 2 of 3 surrogates are within acceptance criteria.
- ② RPD failed acceptance criteria due to sample heterogeneity.
- ③ Results less than 5 times LOR preclude acceptance criteria for RPD.
- ④ Recovery failed acceptance criteria due to matrix interference.
- ⑤ Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
- ⑥ LOR was raised due to sample matrix interference.
- ⑦ LOR was raised due to dilution of significantly high concentration of analyte in sample.
- ⑧ Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
- ⑨ Recovery failed acceptance criteria due to sample heterogeneity.
- ⑩ LOR was raised due to high conductivity of the sample (required dilution).
- † Refer to Analytical Report comments for further information.

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Project **1648232 Culverston Rd Minto- Additional**
Order Number (Not specified)
Samples 9

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SGS Reference **SE149528A R0**
Date Received 2/3/2016
Date Reported 9/3/2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

No respirable fibres detected in soil samples using trace analysis technique as per AS 4964-2004.
Asbestos analysed by Approved Identifiers Ravee Sivasubramaniam and Yusuf Kuthpudin

SIGNATORIES



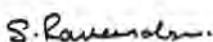
Andy Sutton
Senior Organic Chemist



Kamrul Ahsan
Senior Chemist



Ly Kim Ha
Organic Section Head



Ravee Sivasubramaniam
Asbestos Analyst/Hygiene Team Leader



ANALYTICAL RESULTS

SE149528A R0

VOC's in Soil [AN433/AN434] Tested: 4/3/2016

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL - 26/2/2016 SE149528A.008	SOIL - 26/2/2016 SE149528A.009
Benzene	mg/kg	0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3
Total BTEX	mg/kg	0.6	<0.6	<0.6
Dichlorodifluoromethane (CFC-12)	mg/kg	1	<1	<1
Chloromethane	mg/kg	1	<1	<1
Vinyl chloride (Chloroethene)	mg/kg	0.1	<0.1	<0.1
Bromomethane	mg/kg	1	<1	<1
Chloroethane	mg/kg	1	<1	<1
Trichlorofluoromethane	mg/kg	1	<1	<1
Acetone (2-propanone)	mg/kg	10	<10	<10
Iodomethane	mg/kg	5	<5	<5
1,1-dichloroethene	mg/kg	0.1	<0.1	<0.1
Acrylonitrile	mg/kg	0.1	<0.1	<0.1
Dichloromethane (Methylene chloride)	mg/kg	0.5	<0.5	<0.5
Allyl chloride	mg/kg	0.1	<0.1	<0.1
Carbon disulfide	mg/kg	0.5	<0.5	<0.5
trans-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1
MtBE (Methyl-tert-butyl ether)	mg/kg	0.1	<0.1	<0.1
1,1-dichloroethane	mg/kg	0.1	<0.1	<0.1
Vinyl acetate	mg/kg	10	<10	<10
MEK (2-butanone)	mg/kg	10	<10	<10
cis-1,2-dichloroethene	mg/kg	0.1	<0.1	<0.1
Bromochloromethane	mg/kg	0.1	<0.1	<0.1
Chloroform	mg/kg	0.1	<0.1	<0.1
2,2-dichloropropane	mg/kg	0.1	<0.1	<0.1
1,2-dichloroethane	mg/kg	0.1	<0.1	<0.1
1,1,1-trichloroethane	mg/kg	0.1	<0.1	<0.1
1,1-dichloropropene	mg/kg	0.1	<0.1	<0.1
Carbon tetrachloride	mg/kg	0.1	<0.1	<0.1
Dibromomethane	mg/kg	0.1	<0.1	<0.1
1,2-dichloropropane	mg/kg	0.1	<0.1	<0.1
Trichloroethene (Trichloroethylene -TCE)	mg/kg	0.1	<0.1	<0.1
2-nitropropane	mg/kg	10	<10	<10
Bromodichloromethane	mg/kg	0.1	<0.1	<0.1
MIBK (4-methyl-2-pentanone)	mg/kg	1	<1	<1
cis-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1
trans-1,3-dichloropropene	mg/kg	0.1	<0.1	<0.1
1,1,2-trichloroethane	mg/kg	0.1	<0.1	<0.1
1,3-dichloropropane	mg/kg	0.1	<0.1	<0.1
Chlorodibromomethane	mg/kg	0.1	<0.1	<0.1
2-hexanone (MBK)	mg/kg	5	<5	<5
1,2-dibromoethane (EDB)	mg/kg	0.1	<0.1	<0.1
Tetrachloroethene (Perchloroethylene,PCE)	mg/kg	0.1	<0.1	<0.1
1,1,1,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1
Chlorobenzene	mg/kg	0.1	<0.1	<0.1
Bromoform	mg/kg	0.1	<0.1	<0.1
cis-1,4-dichloro-2-butene	mg/kg	1	<1	<1
Styrene (Vinyl benzene)	mg/kg	0.1	<0.1	<0.1
1,1,2,2-tetrachloroethane	mg/kg	0.1	<0.1	<0.1
1,2,3-trichloropropane	mg/kg	0.1	<0.1	<0.1
trans-1,4-dichloro-2-butene	mg/kg	1	<1	<1



ANALYTICAL RESULTS

SE149528A R0

VOC's in Soil [AN433/AN434] Tested: 4/3/2016 (continued)

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528A.008	SE149528A.009
Isopropylbenzene (Cumene)	mg/kg	0.1	<0.1	<0.1
Bromobenzene	mg/kg	0.1	<0.1	<0.1
n-propylbenzene	mg/kg	0.1	<0.1	<0.1
2-chlorotoluene	mg/kg	0.1	<0.1	<0.1
4-chlorotoluene	mg/kg	0.1	<0.1	<0.1
1,3,5-trimethylbenzene	mg/kg	0.1	<0.1	<0.1
tert-butylbenzene	mg/kg	0.1	<0.1	<0.1
1,2,4-trimethylbenzene	mg/kg	0.1	<0.1	<0.1
sec-butylbenzene	mg/kg	0.1	<0.1	<0.1
1,3-dichlorobenzene	mg/kg	0.1	<0.1	<0.1
1,4-dichlorobenzene	mg/kg	0.1	<0.1	<0.1
p-isopropyltoluene	mg/kg	0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.1	<0.1	<0.1
n-butylbenzene	mg/kg	0.1	<0.1	<0.1
1,2-dibromo-3-chloropropane	mg/kg	0.1	<0.1	<0.1
1,2,4-trichlorobenzene	mg/kg	0.1	<0.1	<0.1
Hexachlorobutadiene	mg/kg	0.1	<0.1	<0.1
1,2,3-trichlorobenzene	mg/kg	0.1	<0.1	<0.1
Total VOC*	mg/kg	24	-	-



ANALYTICAL RESULTS

SE149528A R0

Volatile Petroleum Hydrocarbons in Soil [AN433/AN434/AN410] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
			SE149528A.008	SE149528A.009
PARAMETER	UOM	LOR		
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C9	mg/kg	20	<20	<20
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25



ANALYTICAL RESULTS

SE149528A R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
			SE149528A.008	SE149528A.009
PARAMETER	UOM	LOR		
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16 (F2)	mg/kg	25	<25	<25
TRH >C10-C16 (F2) - Naphthalene	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH C10-C40 Total	mg/kg	210	<210	<210



ANALYTICAL RESULTS

SE149528A R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 4/3/2016

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL - 26/2/2016 SE149528A.008	SOIL - 26/2/2016 SE149528A.009
Naphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0	TEQ	0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR	TEQ (mg/kg)	0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	TEQ (mg/kg)	0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8



ANALYTICAL RESULTS

SE149528A R0

Speciated Phenols in Soil [AN420] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528A.008	SE149528A.009
Phenol	mg/kg	0.5	<0.5	<0.5
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1
Total Cresol	mg/kg	1.5	<1.5	<1.5
2-chlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5
2,3,4,6/2,3,5,6-tetrachlorophenol	mg/kg	1	<1	<1
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dinitrophenol	mg/kg	2	<2	<2
4-chloro-3-methylphenol	mg/kg	2	<2	<2



ANALYTICAL RESULTS

SE149528A R0

OC Pesticides in Soil [AN400/AN420] Tested: 4/3/2016

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL	SOIL
			26/2/2016 SE149528A.008	26/2/2016 SE149528A.009
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1



ANALYTICAL RESULTS

SE149528A R0

OP Pesticides in Soil [AN400/AN420] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528A.008	SE149528A.009
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2



ANALYTICAL RESULTS

SE149528A R0

Full 8270 SVOC in Soil [AN420] Tested: 4/3/2016

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL - 26/2/2016 SE149528A.008	SOIL - 26/2/2016 SE149528A.009
Acenaphthene	mg/kg	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1
Benzo(b&j&k)fluoranthene	mg/kg	0.2	<0.2	<0.2
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1
Naphthalene	mg/kg	0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ, <LOR=0	TEQ	0.2	-	-
2-acetylaminofluorene	mg/kg	0.5	<0.5	<0.5
7,12-dimethyl-benz(a)anthracene	mg/kg	0.5	<0.5	<0.5
3-methylcholanthrene	mg/kg	0.5	<0.5	<0.5
Aldrin	mg/kg	0.1	<0.1	<0.1
Alpha-BHC	mg/kg	0.1	<0.1	<0.1
Beta-BHC	mg/kg	0.5	<0.5	<0.5
Delta-BHC	mg/kg	0.1	<0.1	<0.1
Gamma-BHC (Lindane)	mg/kg	0.1	<0.1	<0.1
p,p-DDD	mg/kg	0.1	<0.1	<0.1
p,p-DDE	mg/kg	0.1	<0.1	<0.1
p,p-DDT	mg/kg	0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2
Alpha-endosulfan	mg/kg	0.2	<0.2	<0.2
Beta-endosulfan	mg/kg	0.2	<0.2	<0.2
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1
Endrin	mg/kg	0.2	<0.2	<0.2
Heptachlor	mg/kg	0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1
Alpha-chlordane	mg/kg	0.1	<0.1	<0.1
Gamma-chlordane	mg/kg	0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2
Bromophos ethyl	mg/kg	0.2	<0.2	<0.2
Carbophenothion	mg/kg	0.5	<0.5	<0.5
Chlorfenvinphos-cis	mg/kg	2	<2	<2
Chlorfenvinphos-trans	mg/kg	0.5	<0.5	<0.5
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2
Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5
Co-Ral (Coumaphos)	mg/kg	0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5
Dichlorvos	mg/kg	0.5	<0.5	<0.5
Demeton-S-methyl	mg/kg	0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149528A R0

Full 8270 SVOC in Soil [AN420] Tested: 4/3/2016 (continued)

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL - 26/2/2016 SE149528A.008	SOIL - 26/2/2016 SE149528A.009
Disulfoton (Di-syston)	mg/kg	0.5	<0.5	<0.5
EPN*	mg/kg	0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2
Ethoprophos (ethoprop or prophos)	mg/kg	0.5	<0.5	<0.5
Famphur (Famophos)	mg/kg	0.5	<0.5	<0.5
Fenamiphos (Phenamiphos)	mg/kg	0.5	<0.5	<0.5
Fenchlorophos (Ronnel)	mg/kg	0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2
Fenthion	mg/kg	0.5	<0.5	<0.5
Malathion (Maldison)	mg/kg	0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5
Mevinphos-cis/trans	mg/kg	1	<1	<1
o,o,o-triethyl phosphorothioate	mg/kg	0.5	<0.5	<0.5
Parathion ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2
Parathion methyl	mg/kg	0.5	<0.5	<0.5
Phorate	mg/kg	0.5	<0.5	<0.5
Pirimiphos-ethyl	mg/kg	0.5	<0.5	<0.5
Pirimiphos-methyl	mg/kg	0.5	<0.5	<0.5
Profenofos	mg/kg	0.5	<0.5	<0.5
Prothiophos (Tokuthion)*	mg/kg	0.5	<0.5	<0.5
Sulfotepp	mg/kg	0.5	<0.5	<0.5
Tetrachlorvinphos (Stirophos)*	mg/kg	0.5	<0.5	<0.5
PCB Congener C28	mg/kg	0.1	<0.1	<0.1
PCB Congener C52	mg/kg	0.1	<0.1	<0.1
PCB Congener C101	mg/kg	0.1	<0.1	<0.1
PCB Congener C118	mg/kg	0.1	<0.1	<0.1
PCB Congener C138	mg/kg	0.1	<0.1	<0.1
PCB Congener C153	mg/kg	0.1	<0.1	<0.1
PCB Congener C180	mg/kg	0.1	<0.1	<0.1
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1
1,2-dichlorobenzene	mg/kg	0.5	<0.5	<0.5
1,3-dichlorobenzene	mg/kg	0.5	<0.5	<0.5
1,4-dichlorobenzene	mg/kg	0.5	<0.5	<0.5
Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5
Hexachlorocyclopentadiene	mg/kg	1	<1	<1
Hexachloroethane	mg/kg	0.5	<0.5	<0.5
Hexachloropropene	mg/kg	0.5	<0.5	<0.5
Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5
Pentachloroethane	mg/kg	0.5	<0.5	<0.5
1,2,3,5 and 1,2,4,5 -tetrachlorobenzene	mg/kg	1	<1	<1
1,2,3,4-tetrachlorobenzene	mg/kg	0.5	<0.5	<0.5
1/2-Chloronaphthalene	mg/kg	1	<1	<1
1,2,4-trichlorobenzene	mg/kg	0.5	<0.5	<0.5
Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5
Bis(2-ethylhexyl)adipate	mg/kg	0.5	<0.5	<0.5
Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5
Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5
Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5
Diethyl phthalate	mg/kg	0.5	<0.5	<0.5
Carbofuran	mg/kg	0.5	<0.5	<0.5
Carbaryl	mg/kg	0.5	<0.5	<0.5
Trifluralin	mg/kg	0.5	<0.5	<0.5
N-nitroso-di-n-butylamine (NDBA)	mg/kg	0.5	<0.5	<0.5
N-nitroso-diethylamine (NDEA)	mg/kg	1	<1	<1
N-nitroso-di-n-propylamine (NDPA)	mg/kg	0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149528A R0

Full 8270 SVOC in Soil [AN420] Tested: 4/3/2016 (continued)

PARAMETER	UOM	LOR	GA-HA02	GA-HA04
			SOIL - 26/2/2016 SE149528A.008	SOIL - 26/2/2016 SE149528A.009
N-nitroso-morpholine (NMOR)	mg/kg	0.5	<0.5	<0.5
N-nitroso-piperidine (NPIP)	mg/kg	0.5	<0.5	<0.5
N-nitroso-pyrrolidine (NPYR)	mg/kg	1	<1	<1
4-amino biphenyl	mg/kg	1	<1	<1
Acetophenone	mg/kg	0.5	<0.5	<0.5
1,3-dinitrobenzene	mg/kg	1	<1	<1
2,4-dinitrotoluene	mg/kg	0.5	<0.5	<0.5
2,6-dinitrotoluene	mg/kg	0.5	<0.5	<0.5
Isophorone	mg/kg	0.5	<0.5	<0.5
Nitrobenzene	mg/kg	0.5	<0.5	<0.5
p-(dimethylamino) azobenzene	mg/kg	1	<1	<1
Phenacetin	mg/kg	1	<1	<1
Pentachloronitrobenzene (quintozene)	mg/kg	0.5	<0.5	<0.5
Aniline	mg/kg	3	<3	<3
4-chloroaniline	mg/kg	1	<1	<1
2-nitroaniline	mg/kg	1	<1	<1
3-nitroaniline	mg/kg	1	<1	<1
4-nitroaniline	mg/kg	1	<1	<1
Diphenylamine	mg/kg	0.5	<0.5	<0.5
o-toluidine	mg/kg	1	<1	<1
5-nitro-o-toluidine	mg/kg	1	<1	<1
1-naphthylamine	mg/kg	1	<1	<1
2-naphthylamine	mg/kg	1	<1	<1
Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5
Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5
Bis(2-chloroisopropyl) ether	mg/kg	0.5	<0.5	<0.5
4-chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5
4-bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5
Methyl methanesulfonate	mg/kg	1	<1	<1
Ethyl methanesulfonate	mg/kg	1	<1	<1
Dibenzofuran	mg/kg	0.5	<0.5	<0.5
Benzyl alcohol	mg/kg	1	<1	<1
Safrole	mg/kg	0.5	<0.5	<0.5
Isosafrole Isomer 1	mg/kg	1	<1	<1
Isosafrole Isomer 2	mg/kg	1	<1	<1
1,4-naphthoquinone	mg/kg	0.5	<0.5	<0.5
Thionazin	mg/kg	1	<1	<1
3/4-methyl phenol (m/p-cresol)	mg/kg	1	<1	<1
2-methyl phenol (o-cresol)	mg/kg	0.5	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5
4-chloro-3-methylphenol	mg/kg	2	<2	<2
2-chlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5
2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5
2-nitrophenol	mg/kg	0.5	<0.5	<0.5
Phenol	mg/kg	0.5	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5
Pentachlorophenol	mg/kg	0.5	<0.5	<0.5
4-nitrophenol	mg/kg	1	<1	<1
Carcinogenic PAHs, BaP TEQ, <LOR=LOR*	TEQ (mg/kg)	0.3	-	-
Carcinogenic PAHs, BaP TEQ, <LOR=LOR/2*	TEQ (mg/kg)	0.2	-	-
2,3,4,6-tetrachlorophenol	mg/kg	0.5	<0.5	<0.5



ANALYTICAL RESULTS

SE149528A R0

Total Recoverable Metals in Soil by ICPOES [AN040/AN320] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
			SE149528A.008	SE149528A.009
PARAMETER	UOM	LOR		
Arsenic, As	mg/kg	3	4	5
Cadmium, Cd	mg/kg	0.3	0.3	0.4
Chromium, Cr	mg/kg	0.3	12	12
Copper, Cu	mg/kg	0.5	18	20
Lead, Pb	mg/kg	1	17	17
Nickel, Ni	mg/kg	0.5	9.1	12
Zinc, Zn	mg/kg	0.5	32	46



ANALYTICAL RESULTS

SE149528A R0

Mercury in Soil [AN312] Tested: 7/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528A.008	SE149528A.009
Mercury	mg/kg	0.01	0.01	0.02



ANALYTICAL RESULTS

SE149528A R0

Moisture Content [AN002] Tested: 4/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
PARAMETER	UOM	LOR	SE149528A.008	SE149528A.009
% Moisture	%w/w	0.5	6.3	11



ANALYTICAL RESULTS

SE149528A R0

Gravimetric Determination of Asbestos in Soil [AN605] Tested: 8/3/2016

			GA-HA02	GA-HA04
			SOIL	SOIL
			-	-
			26/2/2016	26/2/2016
			SE149528A.008	SE149528A.009
PARAMETER	UOM	LOR		
Total Sample Weight*	g	1	324	399
ACM in >7mm Sample*	g	0.01	<0.01	<0.01
AF/FA in >2mm to <7mm Sample*	g	0.0001	<0.0001	<0.0001
AF/FA in <2mm Sample*	g	0.0001	<0.0001	<0.0001
Asbestos in soil (>7mm ACM)*	%w/w	0.01	<0.01	<0.01
Asbestos in soil (>2mm to <7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<2mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Asbestos in soil (<7mm AF/FA)*	%w/w	0.001	<0.001	<0.001
Fibre Type*	No unit	-	-	-

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433/AN434/AN410	VOCs and C6-C9/C6-C10 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN433/AN434	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC's are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN605	This technique gravimetrically determines the mass of Asbestos Containing Material retained on a 7mm Sieve and assumes that 15% of this ACM is asbestos. This calculated asbestos weight is then calculated as a percentage of the total sample weight.
AN605	This technique also gravimetrically determines the mass of Fibrous Asbestos (FA) and Asbestos Fines (AF) Containing Material retained on and passing a 2mm sieve post 7mm sieving. Assumes that FA and AF are 100% asbestos containing. This calculated asbestos weight is then calculated as a percentage of the total sample weight. This does not include free fibres which are only observed by standard trace analysis as per AN 602.
AN605	AMO = Amosite CRY = Chrysotile CRO = Crocidolite
AN605	Insofar as is technically feasible, this report is consistent with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment Remediation and Management of Asbestos - Contaminated Sites in Western Australia - May 2009.



FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : <http://www.sgs.com.au/~media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf>

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APPENDIX L

Groundwater Purge Records and Calibration Certificates

GROUNDWATER SAMPLING RECORD FORM FOR LOW FLOW PURGING



PROJECT INFORMATION

Project Number: 1648232
Client: Tactical
Site Location: Linveston Rd

Date: 26/02/16
Sampled By: Natalie Sandy

GROUNDWATER WELL DATA

Information recorded on site

Diameter of standpipe (mm)	<u>50mm</u>
Standpipe stick up (m)	<u>0.78m</u>
Time	<u>15:00</u>
Depth to water (mbRP)	<u>4.70</u>
Total depth of well (mbRP)	<u>7.10</u>
Thickness of sediment on base of well (m)	

BORE ID GA-BH08

Information from file

Surveyed reference point	
Depth of well (from log)	
Standard flow rate (L/min)	
Depth of pump intake (mbRP)	
Length of hose (m)	
Volume in hose (m)	

Interface probe used?	YES / <u>NO</u>
Depth to product (mbRP)	
Depth to water (mbRP)	
Thickness of product (m)	

Note: Standard reference point is top of PVC standpipe

mbRP - metres below top of reference point

Hose volume - 0.1 L/m of 12mm diameter hose

PURGING RECORD

Depth to water after placement of pump (mbRP)

Time	Volume Purged (L)	Conductivity (mS or μ S)	Temp ($^{\circ}$ C)	pH	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Depth to Water (mbRP)	Appearance (colour, turbidity, odour, etc)
<u>15:05</u>	<u>0.5</u>	<u>19692</u>	<u>24.7</u>	<u>6.84</u>	<u>-44.2</u>	<u>0.84</u>	<u>4.68</u>	<u>Brown, low turb</u>
<u>15:10</u>	<u>1.0</u>	<u>19699</u>	<u>24.7</u>	<u>6.83</u>	<u>-59.2</u>	<u>0.38</u>	<u>4.65</u>	<u>Brown (mud)</u>
<u>15:15</u>	<u>1.5</u>	<u>20419</u>	<u>25.2</u>	<u>6.8</u>	<u>-65.1</u>	<u>0.36</u>	<u>4.65</u>	<u>" "</u>
<u>15:20</u>	<u>2.0</u>	<u>20700</u>	<u>25.5</u>	<u>6.72</u>	<u>-66.2</u>	<u>0.34</u>	<u>4.60</u>	<u>" "</u>
Total vol. purged (L)		<u>0.08L</u>						
		Flow Rate (L/min) <u>0.02L / 5min</u>						

ng odour
low med
turb

Depth to water at end of purging (mbRP)

Purging and Sampling Equipment:

4.6m
Dipper, WDM, Peripump

SAMPLING RECORD

Time sampled: 15:00
Sample Appearance:
Colour _____
Odour _____
Sample Container and Preservation:

Sample ID: GA-BH08
Samples filtered for metals?: Yes / No
Turbidity: Low / Medium / High
Hydrocarbon sheen? No
Duplicate sample taken? / Dup ID.: None

OBSERVATIONS

Weather Conditions: Temperature: Sunny, clear, 27 to 26 $^{\circ}$ C
Precipitation: _____

Notes:

**GROUNDWATER SAMPLING RECORD FORM
FOR LOW FLOW PURGING**



PROJECT INFORMATION

Project Number: 1648232
Client: Tactical
Site Location: Culverston Rd, Minto

Date: 26/02/16
Sampled By: Natalie Sandy

GROUNDWATER WELL DATA

Information recorded on site

Diameter of standpipe (mm)	<u>50</u>
Standpipe stick up (m)	<u>60.70</u>
Time	<u>14.00</u>
Depth to water (mbRP)	<u>3.22m</u>
Total depth of well (mbRP)	<u>6.0m</u>
Thickness of sediment on base of well (m)	

BORE ID GA-BH05

Information from file

Surveyed reference point	
Depth of well (from log)	
Standard flow rate (L/min)	
Depth of pump intake (mbRP)	
Length of hose (m)	
Volume in hose (m)	

Interface probe used?	YES / <u>NO</u>
Depth to product (mbRP)	
Depth to water (mbRP)	
Thickness of product (m)	

Note: Standard reference point is top of PVC standpipe

mbRP - metres below top of reference point

Hose volume - 0.1 L/m of 12mm diameter hose

PURGING RECORD

Depth to water after placement of pump (mbRP)

Time	Volume Purged (L)	Conductivity (mS or μ S)	Temp ($^{\circ}$ C)	pH	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Depth to Water (mbRP)	Appearance (colour, turbidity, odour, etc)
<u>14.00</u>	<u>0.5</u>	<u>6417</u>	<u>25.4</u>	<u>7.07</u>	<u>-131.5</u>	<u>0.97</u>	<u>3.10</u>	
<u>14.05</u>	<u>1.0</u>	<u>6309</u>	<u>25.2</u>	<u>6.90</u>	<u>-118.0</u>	<u>1.91</u>	<u>2.5</u>	
<u>14.10</u>	<u>1.5</u>	<u>6400</u>	<u>25.2</u>	<u>6.94</u>	<u>-119.5</u>	<u>1.80</u>	<u>2.0</u>	
Total vol. purged (L)		Flow Rate (L/min)						

Depth to water at end of purging (mbRP)

Purging and Sampling Equipment:

2.0m
Dipper, W.M., peripump (low flow)

SAMPLING RECORD

Time sampled: 14.00

Sample ID: GA-BH05

Sample Appearance:

Samples filtered for metals?: Yes / No

Colour Brown

Turbidity

Low / Medium / High

Odour a little very strong

Hydrocarbon sheen?

No

Very muddy!

Sample Container and Preservation:

Duplicate sample taken? / Dup ID:

No

I took a long time to filter!

OBSERVATIONS

Weather Conditions: Temperature: Cloudy, 27 $^{\circ}$ C

Precipitation:

Notes:

**GROUNDWATER SAMPLING RECORD FORM
FOR LOW FLOW PURGING**



PROJECT INFORMATION

Project Number: 1648232
Client: Tactical
Site Location: Culbreton Rd, Minto

Date: 26/02/16
Sampled By: Natalie Sandy

GROUNDWATER WELL DATA

Information recorded on site

Diameter of standpipe (mm)	<u>50mm</u>
Standpipe stick up (m)	<u>0.58m</u>
Time	<u>8:30AM</u>
Depth to water (mbRP)	<u>4.73m</u>
Total depth of well (mbRP)	<u>8.65m</u>
Thickness of sediment on base of well (m)	

BORE ID GA-BH02

Information from file

Surveyed reference point	
Depth of well (from log)	
Standard flow rate (L/min)	
Depth of pump intake (mbRP)	
Length of hose (m)	
Volume in hose (m)	

Interface probe used?	YES / <u>NO</u>
Depth to product (mbRP)	
Depth to water (mbRP)	
Thickness of product (m)	

Note: Standard reference point is top of PVC standpipe

mbRP - metres below top of reference point

Hose volume - 0.1 L/m of 12mm diameter hose

PURGING RECORD

Depth to water after placement of pump (mbRP)

Time	Volume Purged (L)	Conductivity (mS or µS)	Temp (°C)	pH	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Depth to Water (mbRP)	Appearance (colour, turbidity, odour, etc)
<u>8:30</u>	<u>0.5</u>	<u>7298</u>	<u>20.7</u>	<u>7.07</u>	<u>838.4</u>	<u>0.80</u>	<u>4.70m</u>	<u>Brown, mod. turbidity, no odour</u>
	<u>1.0</u>	<u>7203</u>	<u>20.5</u>	<u>6.87</u>	<u>57.5</u>	<u>0.43</u>	<u>4.67m</u>	<u>" "</u>
	<u>1.5</u>	<u>7211</u>	<u>20.8</u>	<u>6.6</u>	<u>46.6</u>	<u>0.48</u>	<u>4.65m</u>	<u>" "</u>
Total vol. purged (L) <u>1.5L</u>		Flow Rate (L/min) <u>0.1m</u>						

Depth to water at end of purging (mbRP)

4.63m

Purging and Sampling Equipment:

Dipper, WAM, per pump (low-flow)

SAMPLING RECORD

Time sampled: 8:30am

Sample ID: GA

Sample Appearance: Brown (muddy)

Samples filtered for metals? Yes / No

Colour: Brown (muddy)

Turbidity

Low / Medium / High

Odour: None

Hydrocarbon sheen?

No

Sample Container and Preservation:

Duplicate sample taken? / Dup ID: QC100 & QC200

100mL x 2, metals (filtered), 1x amber?

OBSERVATIONS

Weather Conditions: Temperature: 26°C

Precipitation:

Notes: Step up - rain & slow - have taken soil jar of sample to filter later

**GROUNDWATER SAMPLING RECORD FORM
FOR LOW FLOW PURGING**



PROJECT INFORMATION

Project Number: 1648232
Client: Tactical
Site Location: Liverston Rd, Minto

Date: 26/02/16
Sampled By: Natalie Sandy

GROUNDWATER WELL DATA

Information recorded on site

Diameter of standpipe (mm)	<u>50mm</u>
Standpipe stick up (m)	<u>0.53m</u>
Time	<u>13:00</u>
Depth to water (mbRP)	<u>3.42</u>
Total depth of well (mbRP)	<u>7.10m</u>
Thickness of sediment on base of well (m)	<u>..</u>

BORE ID GA-BH04

Information from file

Surveyed reference point	
Depth of well (from log)	
Standard flow rate (L/min)	
Depth of pump intake (mbRP)	
Length of hose (m)	
Volume in hose (m)	

Interface probe used?	YES / <u>NO</u>
Depth to product (mbRP)	
Depth to water (mbRP)	
Thickness of product (m)	

Note: Standard reference point is top of PVC standpipe

mbRP - metres below top of reference point

Hose volume - 0.1 L/m of 12mm diameter hose

PURGING RECORD

Depth to water after placement of pump (mbRP)

Time	Volume Purged (L)	Conductivity (mS or μ S)	Temp ($^{\circ}$ C)	pH	Redox Potential (mV)	Dissolved Oxygen (mg/L)	Depth to Water (mbRP)	Appearance (colour, turbidity, odour, etc)
<u>13:00</u>	<u>0.5</u>	<u>21419</u>	<u>25.4</u>	<u>6.79</u>	<u>108.5</u>	<u>0.54</u>	<u>3.40</u>	<u>Brown turbid</u>
<u>13:05</u>	<u>1.0</u>	<u>21488</u>	<u>25.2</u>	<u>6.72</u>	<u>104.4</u>	<u>0.40</u>	<u>3.38</u>	<u>" "</u>
<u>13:10</u>	<u>1.5</u>	<u>21301</u>	<u>24.4</u>	<u>6.70</u>	<u>101.2</u>	<u>0.20</u>	<u>3.35</u>	<u>" "</u>
<u>13:15</u>	<u>2.0</u>	<u>21337</u>	<u>24.4</u>	<u>6.69</u>	<u>98.7</u>	<u>0.22</u>	<u>3.35</u>	<u>" "</u>
Total vol. purged (L)								
					Flow Rate (L/min)	<u>or 1 L/10 min</u>		

hydrocarbon
sheen

no odour

bubbles + sheen?

Depth to water at end of purging (mbRP)

Purging and Sampling Equipment:

3.35m
Dipper, per pump, wdm

SAMPLING RECORD

Time sampled: 13:00

Sample Appearance:

Colour: Brown Turbidity: Bubbles/foam + sheen

Odour: No odour Hydrocarbon sheen? yes

Sample Container and Preservation:

2x vials, amber glass bottle + metal (filtered)

Sample ID: GA-BH04

Samples filtered for metals?: Yes / No

Low / Medium / High

Duplicate sample taken? / Dup ID: None

OBSERVATIONS

Weather Conditions: Temperature: Cloudy 27 $^{\circ}$

Notes: Bu

PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-105522**



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6 ev			
Alarms	Beeper	✓	Low	High	TWA	STEL
	Settings	✓	50ppm	100ppm	N/A	N/A
Software	Version	✓				
Data logger	Operation	✓				
Download	Operation	✓				
Other tests:						

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		100ppm Isobutylene	NIST	SY64		100.5ppm

Calibrated by: Justine Teo

Calibration date: 25/02/2016

Next calibration due: 26/03/2016



APPENDIX M

Report Limitations



IMPORTANT INFORMATION RELATING TO THIS REPORT

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