School Infrastructure New South Wales
c/o Johnstaff Projects Pty Ltd

Fort Street Public School Detailed Site Investigation

Upper Fort Street
Observatory Hill, Millers Point, NSW

15 August 2019

56262-123330 (Rev B)

JBS&G Australia Pty Ltd

www.jbsg.com.au

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Abbreviations

Term	Definition
ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ASRIS	Australian Soil Resource System
ASS	Acid Sulfate Soil
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CEC	Cation Exchange Capacity
CLM Act	Contaminated Land Management Act 1997
COC	Chain of Custody
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
DQI	Data Quality Indicator
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EILs	Ecological Investigation Levels
ESL	Ecological Screening Levels
EPA	Environment Protection Authority (New South Wales)
Ha	Hectare
HIL	Health-based Investigation Level
HSL	Health Screening Level
JBS&G	JBS&G Australia Pty Ltd
LEP	Local Environmental Plan
LOR	Limit of Reporting
LPI	Land and Property Information (NSW)
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection (Assessment of Site Contamination) Measure
OCP	Organochlorine Pesticide
OPP	Organophosphorus Pesticides
OEH	NSW Office of Environment and Heritage
OW	Office of Water (NSW)
PAH	Polycyclic Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness and Sensitivity
PCBs	Polychlorinated Biphenyls
POEO Act	Protection of the Environment Operations Act 1997
PFAS	Per- and Poly- Fluoroalkyl Substances
PID	Photo-ionisation Detector
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SAQP	Sampling Analysis and Quality Plan
SCS NSW	Soil Conservation Service of NSW
SEPP55	State Environmental Planning Policy 55 – Remediation of Land
SINSW	School Infrastructure New South Wales
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VOC	Volatile Organic Compound

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Schools Infrastructure NSW (SINSW, the client), c/o Johnstaff Projects Pty Ltd (Johnstaff), to undertake a Detailed Site Investigation (DSI), at Fort Street Public School, located on Upper Fort Street, Observatory Hill, Miller Point, NSW (the site). The site is legally identified as Lot 2 Deposited Plan (DP) 244444, Lot 2, 3, 4 and 9 of DP 732592, Lot 106,107 and 108 DP 748340, and Lot 5 DP 258013 and comprises an area of approximately 6,200 m^2. The site location and layout are shown on **Figure 1** and **Figure 2** respectively.

JBS&G understand that Fort Street Public School has reached student and functional capacity in its current form and SINSW have commenced planning for the school's expansion. In order to facilitate the redevelopment of the school site, an assessment of the site's suitability is required in respect to contaminated site guidelines made or endorsed by the NSW EPA and in accordance with State Environmental Planning Policy 55 – Remediation of Land (SEPP55) and associated DUAP/EPA (1998) Planning Guidelines for SEPP55.

The objectives of this DSI are to characterise potential contamination at the site, and to draw conclusions regarding the suitability of the site for the proposed land use, or, to make recommendations to enable such conclusions.

A review of the site's history indicates that the site has been owned by the Crown since records began. The site has largely remained the same since the early 1940s.

Data used for the assessment of site suitability as documented herein were collected on 10, 11, 15 and 16 July 2019. For a site of approximately 6,200 m^2, NSW EPA (1995) recommend 15 to 16 sampling locations. Noting the sensitive nature of the site, JBS&G undertook sampling at 18 locations across the site utilising a combination of systematic and targeted sampling approaches. Noting the archaeologically significance of the site, JBS&G collected soils samples from a combination of trenches that were advanced by Curio for dual-purpose assessment of site characterisation and archaeological investigations and four test pits.

Fill materials were encountered at most sample locations from the ground surface (or beneath hardstands) to depths of between 0.4 and 2.7 m bgs and generally comprised silty gravels, gravelly sand and clayey gravelly sand. The depth of fill materials was generally shallowest in the western portion of the site, with increasing depth towards the east. Inclusions of brick, sandstone cobbles, asphalt, minor ash and slag and glass were observed at several locations across the site. Three small fragments of non-friable (bonded) ACM were identified in fill materials excavated from TP01B from a depth of 0.2-0.3 m bgs. The three fragments of ACM were collected for laboratory analysis which confirmed the presence of asbestos fibres in the fragments. No other fragments of ACM in soil were observed by JBS&G from materials excavated from the trench associated with TP01A and TP01B. An additional soil sample was collected from material from this sample interval for asbestos in soils analysis, in which no asbestos was reported by the testing laboratory. A subsequent asbestos clearance certificate was issued by JBS&G.

The results of the soil analytical data indicate that there are potentially unacceptable risks to human and ecological health at several locations resulting from PAHs, heavy metals and TRH concentrations in soil. JBS&G's assessment did not identify potential risks relating to the migration of contamination from the site based on current site conditions.

In relation to the current use of the site, lead was identified in surface and near surface soils at concentrations that pose a potentially unacceptable risk to current and future users of the site. The key pathway for exposure of lead is by ingestion of soils, and as such, in locations of lead impacts that are covered by hardstand, JBS&G does not consider there to be a complete source-receptor pathway, thus eliminating the risk of exposure. However, lead was reported at a concentration of 1,300 mg/kg at TP5B (see **Figure 4**) – an area of the site not covered by hardstand. As such, whilst

potential exposure by ingestion is limited to periods when this area is accessed and ground surfaces can be disturbed, there is still a possibility of accidental/incidental ingestion. Noting that soils from this area of the site are readily accessible (combination of exposed soils and grasses) to students as well as teachers, JBS&G recommend interim management of the potential exposure risks be undertaken such that access to these soils is restricted, either by fencing the area off, or by providing physical separation to soils (for example, utilising artificial turf) to restrict exposure to soil but allow access to the area.

Based on the findings of this investigation and subject to the limitations presented in **Section 12**, the site currently has potentially unacceptable risks to current and future users of the site in a primary education setting (residential with minimal access to soils land use, consistent with NEPC (2013)).

For current use of the site, it is recommended an interim environmental management plan (EMP) be developed and implemented to address lead contamination in surface soil at TP05B. Interim management actions may include restricting access to the area or providing additional physical separation to underlying soils, until a longer-term management solution is implemented. A plan showing the proposed interim management area is provided as **Figure 5**.

For the development and future use, JBS&G recommend the development of a Remedial Action Plan (RAP) to guide the required remediation in order for the site to be made suitable for the proposed future land use.

1. Introduction

1.1 Introduction and Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Schools Infrastructure NSW (SINSW, the client), c/o Johnstaff Projects Pty Ltd (Johnstaff), to undertake a Detailed Site Investigation (DSI), at Fort Street Public School, located on Upper Fort Street, Observatory Hill, Miller Point, NSW (the site). The site is legally identified as Lot 2 Deposited Plan (DP) 244444, Lot 2, 3, 4 and 9 of DP 732592, Lot 106,107 and 108 DP 748340, and Lot 5 DP 258013 and comprises an area of approximately 6,200 m^2. The site location and layout are shown on **Figure 1** and **Figure 2** respectively.

JBS&G understand that Fort Street Public School has reached student and functional capacity in its current form and SINSW have commenced planning for the school's expansion. In seeking planning approval for the school's redevelopment, it is proposed to lodge a State Significant Development Application (SSDA) with the NSW Department of Planning and Environment (DPE). It is further understood that redevelopment aspects may also be pursued through a Development Application (DA)/Review of Environmental Factors (REF) approval pathway, which is to be determined in the future (Curio 2019[1]). Irrespective of the approvals pathway, assessment of the site's suitability is required in respect to contaminated site guidelines made or endorsed by the NSW EPA and in accordance with *State Environmental Planning Policy 55 – Remediation of Land (SEPP55)* and associated DUAP/EPA (1998) Planning Guidelines for SEPP55.

The DSI presented herein has been developed in accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA), including the *National Environmental Protection Council* (NEPC) (2013) *National Environmental Protection (Assessment of Site Contamination) Measure* (NEPM), and relevant Australian Standards.

1.2 Objectives

The objectives of this investigation were to characterise potential contamination at the site, and to draw conclusions regarding the suitability of the site for the proposed and ongoing educational land uses, or, to make recommendations to enable such conclusions to be made.

1.3 Scope of Work

The scope of work completed as part of this assessment comprised:

- A desktop review of site history and background information to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs), including;
    - Review of previous reports (JK Geotechnics[2] 2017), relating to the site and surrounding area, as provided by the client;
    - Planning certificates obtained for three representative Lots on the site, obtained from City of Sydney Council (Council);
    - Historical aerial photographs obtained from the Department of Lands;
    - Heritage records held by the Office of Environment & Heritage (OEH) and any local heritage information as may be publicly available via online sources;
    - Records of environmental incidents, former environmental licences, and contaminated land notices or notifications for the site and immediate surrounds, as held by the EPA;

[1] Historical Archaeological Research Design, Test Excavation, Fort Street Public School, Curio Projects, April 2019 (Curio 2019)

[2] *Report to Conrad Gargett Anchor Mortlock Woolley on Geotechnical Investigation for Proposed School Upgrade at Fort Street Public School* – JK Geotechnics 29 June 2017 (JK Geotechnics 2017)

- Licensed groundwater bores present within a 1.0 km radius of the site available through the online Water NSW Resource; and
- Review of the environmental setting, including a review of topography, geology, soils, acid sulfate soils, hydrology, and meteorology of the site and surrounding areas;

- A detailed site walkover, with any evidence of potential contamination or hazardous materials noted;
- Development and documentation of a conceptual site model (CSM) based on the available information;
- Development of the Sampling, Analytical and Quality Plan (SAQP) and associated data quality objectives (DQOs), in accordance with relevant NSW EPA guidelines;
- Completion of a systematic and targeted site investigation program including soil sampling across the site targeting AECs, in conjunction with Curio's archaeological investigation;
- Analysis of selected soil samples at a National Association of Testing Authority (NATA) accredited laboratory for a range of COPCs including total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylene (BTEX), organochlorine pesticides (OCPs), polychlorinated biphenyl (PCBs), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), heavy metals, asbestos, EC, pH and clay content (%);
- Comparison of collected analytical data against NSW EPA published and/or endorsed criteria to facilitate an assessment of land use suitability; and
- Preparation of this DSI report in accordance with relevant EPA guidelines presenting the outcomes of the assessment and associated conclusions.

2. Site Condition and Surrounding Environment

2.1 Site Identification

The location of the site is shown in **Figure 1**, and the current layout is shown in **Figure 2**. The site details are summarised in **Table 2.1**.

Table 2.1: Site Details

Lots / DPs	Lot 2 of DP 244444 Lot 2, 3, 4 and 9 of DP 732592 Lot 106 of DP 748340 Lot 107 of DP 748340 Lot 108 of DP 748340 Lot 5 of DP 258013
Site Address	Upper Fort Street, Observatory Hill, Miller Point, NSW, 2000
Local Government Authority	City of Sydney
Site Area	Approximately 6,200 m^2
Approximate MGA Coordinates (MGA 56)	As shown on **Figure 2**
Site Zoning	Metropolitan Centre (B8)
Current Use	Education
Previous Use	
Proposed Use	Education

2.2 Site Description

A detailed site inspection was undertaken on 4 June 2019, and field works were completed on 10, 11, 12, 15 and 16 June 2019, by one of JBS&G's trained and experienced field scientists. Site observations are discussed below.

The site is a flat, spherical shaped parcel of land located approximately 800 m southwest of the Sydney Harbour Bridge. The site is situated at the top of Observatory Hill and is bound by a portion of the Cahill Expressway which is cut into the underlying sandstone, such that the site forms an 'island', as seen in **Figure 2**.

The site is accessed via a gated accessway from Upper Fort Street. Several structures exist at the site, including Building A and associated toilet block, a style cottage building, garage (materials storage), Building B (EEC Building) and the MET Building. A large portion of the site is covered by hardstand including asphalt, concrete and astro-turf areas such that access to underlying soils is limited. Grasses cover a lesser extent of the site, largely in the southern portion of the site and surrounding the MET Building and Cottage. Several trees and small shrubs are present within the southern portion of the site, and a large, old-growth tree is located immediately to the east of Building A. Playground areas including an astro-turf area, mini sports field (astro-turf) and a newly constructed raised timber decking are present within the northern portion of the site.

Observations related to in-ground conditions are presented in **Section 9**.

2.3 Surrounding Land Use

The current land uses of adjacent properties or properties across adjacent roads are summarised below.

- North – Cahill Expressway, beyond which lies Sydney Observatory;
- East – Major road infrastructure including the Western Distributor and Cahill Expressway;
- South – Cahill Expressway, beyond which lies infrastructure including a fire station, cafes and art gallery; and
- West – Cahill Expressway, beyond which lies residential housing and the Barangaroo Redevelopment Precinct.

2.4 Topography

Review of published regional topographic information obtained from the Photomaps tool hosted by Nearmap (2019[3]) indicates the site is generally flat, with the approximate elevation of 40 m Australian Height Datum (AHD). The site is situated atop Observatory Hill and as such, the surrounding land generally dips to the north, east and south, beyond the Cahill Expressway.

2.5 Geology and Soils

Reference to the online ESPADE 2.0 tool hosted by the NSW Office of Environment and Heritage (OEH 2019[4]) and the 1:100 000 Geological Series Sydney Geological Survey of NSW Sheet 9130 (DMR 1983) indicates that the site is present within the following natural geological and soil landscapes;

- **Geology:** Hawkesbury Sandstone – comprising medium to coarse grained quartz sandstone, very minor shale and laminite lenses. The surrounding area is also underlain by areas of man-made fill sourced from dredged estuarine sand and mud, demolition rubble, industrial and household waste.

  Observations of the exposed geology of the Cahill Expressway cutting made during the site inspection indicate that sandstone is present at relatively shallow depths beneath the site surface (i.e. within 2m below ground surface (m bgs), consistent with Curio (2019). During the site investigation, 18 boreholes were advanced across the site, in which fill overlying natural materials was encountered from beneath hardstand (0.15 m bgs) to 2.7 m bgs. Natural materials encountered were observed to comprise sandstone.

- **Landscape**: Undulating to rolling rises and low hills on Hawkesbury sandstone. Local relief of 20-80m, slopes 10-25%. Rock outcrop <25%. Broad convex crests, moderately inclined side slopes with wide benches, localised rock outcrop on low broken scarps.

- **Soils**: Gymea Erosional – Shallow to moderately deep (30-100 cm) yellow earths and earthy sands, on crests and inside of benches; shallow (<20 cm) siliceous sands on leading edges of benches; localised Gleyed Podzolic Soils and Yellow Podzolic Soils on shale lenses; shallow to moderately deep (<100 cm) siliceous sands and leached sands along drainage lines

- **Limitations**: localised steep slopes, high soil erosion hazard, rock outcrop, shallow highly permeable soil, very low soil fertility.

2.6 Hydrology

Due to the site's topography and geographic isolation, precipitation falling in areas surrounding the site are not likely to influence the hydraulic condition of the site. Precipitation is anticipated to fall onto buildings and asphalted/paved areas will flow into engineered drainage lines and the local stormwater system. In areas unconfined by hardstand (e.g. garden beds, unpaved areas across the school grounds), rainfall is likely to penetrate soils and migrate to the water table where it may be released as seepage water on the Cahill Expressway, and/or flow into stormwater infrastructure in heavy rain events.

The closest waterbody to the site is the Parramatta River at Barangaroo, located approximately 250m west of the site.

2.7 Hydrogeology

A total of thirty-eight registered groundwater wells fall within a 1.0 kilometre radius of site, and are located largely toward the northwest, west and southwest of the site, as seen in **Appendix A**. These wells were installed within the years 2008 – 2011 for water monitoring purposes and have reported

[3] *'Photomaps'*, Nearmap, Accessed 22 July 2019, Nearmap (2019) https://www.nearmap.com.au/

[4] *ESPADE 2.0*. NSW Office of Environment and heritage, accessed 22 July 2019, OEH 2019;

drill depths between 3 and 17 metres below ground surface (m bgs). No data regarding standing surface water levels were reported within any of the wells.

2.8 Acid Sulfate Soils

Review of the *1:25 000 scale Prospect Paramatta Acid Sulfate Soil (ASS) Risk Map* (DLWC 1997[5]) indicates that the site is located within an area of 'no known or expected occurrences of acid sulfate soils (ASS) materials'. Based on review of geology maps, soil maps, site topography and site observations, it is unlikely that actual and/or potential acid sulfate soils would be present on-site. Based on the site's elevation, the reported geology, the ASS Risk Map classification and observations made during the intrusive investigations, as documented herein and in JK (2017), no further consideration for the assessment/management of acid sulfate soil is required.

2.9 Meteorology

A review of average climatic data for the nearest Bureau of Meteorology monitoring location (Observatory Hill[6]) indicates the site is located within the following meteorological setting:

- Average minimum temperatures vary from 8.1 ^{o}C in July to 18.9 ^{o}C in February;
- Average maximum temperatures vary from 16.4 ^{o}C in July to 26.0 ^{o}C in January;
- The average annual rainfall is approximately 1215.7 mm with rainfall greater than 1 mm occurring on an average of 100.0 days per year; and
- Monthly rainfall varies from 67.8 mm in September to 133.2 mm in June.

[5] *Prospect Paramatta Acid Sulfate Soil Risk Map* (Edition 2), NSW Department of Land and Water Conservation (DLWC 1997)

[6] http://www.bom.gov.au/climate/averages/tables/cw_066062.shtml, Commonwealth of Australia, 2013 Bureau of Meteorology, Product IDCJCM0028 prepared on 22 July 2019 and accessed by JBS&G on 22 July 2019.

3. Site History

3.1 Aerial Photographs

Copies of aerial photographs obtained from the Department of Land and Property Information are included in **Appendix B.** Relevant information from the aerial photograph review is summarised below in **Table 3.1**.

Table 3.1 – Summary of Aerial Photographs

Year	Site & Surrounding Area Description
1930	• The site appears to contain several structures that are centrally located, and an additional L-shaped structure appears within the southern portion of the site. Specific details on the usage of the site are limited by the quality of the aerial photograph. • The construction of the Bradfield Highway to the east of the site appears to be ongoing. The road-cutting surrounding the site, associated with the Cahill Expressway, is not evident in the aerial photograph. • Observatory Hill, located to the north of the site, appears to contain several structures, consistent with the present-day configuration. Areas surrounding the site, beyond Observatory Hill and Hickson Road (west) appear to contain residential dwellings (terraces).
1943	• The site appears to contain at least five separate structures at the site – the configuration of these structures appears to be generally consistent with the present-day configuration of site structures (Met Building, Building A, Cottage). At least two structures appear to have been constructed in the southwestern portion of the site. Vegetation appears to be present in the area between Building A and Upper Fort Street. • Access to the site appears to be from the Bradfield Highway and Upper Fort Street. • The Bradfield Highway appears to have been constructed and operational. The road-cutting surrounding the site, associated with the Cahill Expressway, appears to be almost complete. However, the Cahill Expressway to the east of the site has not yet been constructed. • The surrounding areas appear to have undergone some development. The historic areas of The Rocks and Millers Point appear to contain residential terraces.
1956	• Vegetation, located to the east of Building A, appears to have been removed and the area has been landscaped. The two structures located in the southern portion of the site appear to have been demolished and Building B appears to have been constructed in this area of the site. A structure located to the northwest of Building A appears to have been demolished. No other significant site changes to the site from the previous imagery is noted. • Toll booths have been added across the Bradfield Hwy to the northeast of the site, and the road has been expanded to accommodate the booths. Access to the site from the Bradfield Highway has been removed. • Demolition of terraces and construction works associated with Cahill Expressway appear east of the Bradfield Highway, joining to the road cutting adjacent the site. • The remaining areas surrounding the site appear consistent with previous imagery.
1965	• The site appears to be consistent with the previous imagery. • The Cahill Expressway is now in full operation, and the Bradfield Hwy has been greatly expanded to include a second row of tollbooths, Western Distributer and Cahill Expressway southbound entry ramp. The remaining areas of the site's surrounds remain relatively unchanged.
1975	• The site appears to be consistent with the previous imagery. • Construction of commercial towers to the south of the site and changes to the Bradfield Highway/Cahill Expressway roadway configurations appear to have been made.

Year	Site & Surrounding Area Description
1998	• Two structures previously located to the west of the MET Building appear to have been demolished and the footprints covered in asphalt hardstand, adjoining the driveway in the centre of the site. • The surrounding areas appear to be consistent with the previous imagery.
2000	• The site and immediate surroundings appear to be consistent with the previous imagery.
2010	• The area immediately to the west of Building A appears to have been covered by sun shades, consistent with the present-day configuration of the site. • The site and immediate surroundings appear to be consistent with the previous imagery.
2019	• The site remained mostly unchanged with the exception of the addition of two hardstand sporting facilities in the form of netball and soccer courts. A minor increase in vegetation cover has occurred over the same time period.

3.2 Historical Land Title Records

The results of the historical land title search for the site are summarised in **Table 3.2**. Historical land titles are provided in **Appendix C**.

Table 3.2 – Historical Land Title Search

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
Lot 2 DP 732592		
As regards the part tinted pink on the attached Cadastral Records Enquiry Report		
	Part formerly comprised within Observatory Park Lands	
1908	Observatory Park, placed under the control of the Municipal Council of Sydney by Act 27 of 1908 – being the Sydney Corporation (Amendment) Act 1908	
As regards the part tinted pink on the attached Cadastral Records Enquiry Report		
	Formerly part of Upper Fort Street	
19.02.1932	Vested in the Minister for Public Works as constructing authority for southern approach to Sydney Harbour Bridge	Government Gazette
29.03.1935	Vested in the Municipal Council of Sydney (Upon trust for the purposes of public roads and highways)	Government Gazette
Continued as regards the whole of Lot 2 D.P. 732592		
12.06.1942	Minister for Public Instruction Now Minister for Education (Acquired for Public School Purposes under the Public Instruction Act of 1880)	Government Gazette Now 2/732592
Lot 4 DP 732592		
As regards the part tinted pink on the attached Cadastral Records Enquiry Report		
	Part formerly comprised within Observatory Park Lands	-
1908	Observatory Park, placed under the control of the Municipal Council of Sydney by Act 27 of 1908 – being the Sydney Corporation (Amendment) Act 1908	-
1923	Commonwealth of Australia (occupation authorised pursuant to the Observatory Park Weather Bureau Site Act No. 8 of 1923)	-
01.12.2000	Declared Crown Land – now comprised in Crown Reserve R 100223 for Heritage and Community Purposes	Government Gazette Now 4/732592
As regards the part tinted yellow on the attached Cadastral Records Enquiry Report		
	Part formerly comprised within Observatory Park Lands	-

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
1908	Observatory Park, placed under the control of the Municipal Council of Sydney by Act 27 of 1908 – being the Sydney Corporation (Amendment) Act 1908	-
03.04.1912	Dedicated as an addition to Fort Street Public School	-
10.01.1919	Revocation of dedication	-
31.01.1919	Crown Tenure Special Lease 1918/4 to the Commonwealth of Australia	-
1947	Now Crown Tenure Special Lease 1947/556 to Commonwealth of Australia Now expired	-
01.12.2000	Declared Crown Land – now comprised in Crown Reserve R 100223 for Heritage and Community Purposes	Government Gazette Now 4/732592
Continued as regards the whole of Lot 4 D.P. 732592		
13.04.2017 (2017 to date)	Minister for Education (Acquired for Public School Purpose)	4/732592
Lot 106 DP 748340		
As regards the part tinted yellow on the attached Cadastral Records Enquiry Report		
	Part formerly comprised within Observatory Park Lands	-
1908	Observatory Park, placed under the control of the Municipal Council of Sydney by Act 27 of 1908 – being the Sydney Corporation (Amendment) Act 1908	-
03.04.1912	Dedicated as an addition to Fort Street Public School	-
10.01.1919	Revocation of dedication	-
31.01.1919	Crown Tenure Special Lease 1918/4 to the Commonwealth of Australia	-
1947	Now Crown Tenure Special Lease 1947/556 to Commonwealth of Australia Now expired	-
30.10.1992	Crown Reserve R 100223 for Heritage and Community Purposes	Government Gazette Now 106/748340
As regards the part tinted pink on the attached Cadastral Records Enquiry Report		
	Part formerly comprised within Observatory Park Lands	-
1908	Observatory Park, placed under the control of the Municipal Council of Sydney by Act 27 of 1908 – being the Sydney Corporation (Amendment) Act 1908	-
	Sydney City Council appointed trustee pursuant to Section 33 (1) of the Sydney Corporation (Amendment) Act No. 27 of 1908	-
30.10.1992	Crown Reserve R 100223 for Heritage and Community Purposes	Government Gazette Now 106/748340
Continued as regards the whole of Lot 106 D.P. 748340		
13.04.2017 (2017 to date)	Minister for Education (Acquired for Public School Purpose)	106/748340

3.3 Council Section 10.7 Certificates

A copy of the s.10.7 Planning Certificates for the site (Lot 2 DP 732592, Lot 9 DP 732592, Lot 108 DP 748340, Lot 3 DP 732592, Lot 106 DP 748340, Lot 4 DP 732592) were obtained from the City of Sydney Council on 2 July 2019. Relevant details are summarised below and a copy of the s.10.7 Planning Certificate is included in **Appendix D.**

Relevant Planning Instruments and Development Control Plans

- The land is subject to the requirements under the Sydney Local Environmental Plan (LEP) 2012.
- The land is subject to the Sydney Development Control Plan (DCP) 2012 (City of Sydney Council 2012).

- The land is subject to the planning proposal for the Amendment of Sydney Local Environmental Plan 2012 – Millers Point.

Zoning of Land Under Relevant LEPs

- The land is currently zoned B8 Metropolitan Centre under the Sydney LEP 2012.

Heritage

- The land has been identified as land within a Heritage Conservation Area as per the Sydney LEP (2012);
- This property has been listed as an Item of Environmental Heritage as per the Sydney LEP (2012);
- This property is identified as being of state significance and has been entered on the State Heritage Register. Unless the proposed work is exempt under the Heritage Office Standard Exemptions or is covered by site specific exemptions, an applicant must seek an integrated development approval from Council and as such the proposal will be referred to the Heritage Council.

In relation to Contaminated Land:

- Under the meaning of the Contaminated Land Management Act (1997);
    - The land has not been identified as significantly contaminated land;
    - The land is not subject to a management order;
    - The land is not the subject of an approved voluntary management proposal;
    - The land is not subject to an ongoing maintenance order; and
    - The land is not the subject of a site audit statement;
- There are no residential premises on the land that are listed on the register as being impacted with Loose-fill asbestos insulation (LFAI). However, it is noted that there is potential for loose-fill asbestos insulation in residential premises that are not currently listed on the register.

Other Considerations

- The land, or part thereof, is not identified as being affected by a policy adopted by council or adopted by any other public authority and notified to council that restricts development of the land because of the likelihood of ASS or land contamination;
- The land, or part thereof, is not affected identified as being land affected by any road widening or road alignment under Division 2 of Part 3 of the *Roads Act 1993* or any environmental planning instrument; and
- The land, or part thereof, is not proclaimed to be mine subsidence district within the meaning of Section 15 of the *Mine Subsidence Compensation Act 1961*.

3.4 EPA Records

Search of the NSW EPA database was undertaken on 3 July 2019 (**Appendix E**) for the site and immediate surroundings. The search consisted of the following:

- NSW EPA Protection of the Environment Act public register of licence, applications and notices (maintained under Section 308 of the *Protection of the Environment Operations Act 1997* (POEO Act));

- NSW EPA contaminated land public register of record of notices (under Section 58 of the *Contaminated Land Management Act 1997* (CLM Act)); and
- NSW contaminated sites notified to the EPA (under Section 60 of the CLM Act).

No prevention, clean-up or prohibition notices and no transfer, variation, suspension, surrender or revocation of an environment protection licence records were identified to have been issued under the POEO Act for the site. However, multiple environmental protection licences and licence variations, were issued to the Barangaroo Redevelopment Precinct, located near to 30-38 Hickson Rd, Miller Point, NSW. This area is approximately 170 m down gradient to the west of the site. Therefore, it is considered that onsite migration of hazardous materials from surrounding land uses is unlikely to occur.

3.5 EPA Per- and Poly- Fluoroalkyl Substances (PFAS) Register

A search of the EPA's PFAS register indicated that there were no records pertaining to the site or surrounds.

3.6 NSW Fair Trading Loose Fill Asbestos Insulation Register

A search of the NSW Fair Trading loose fill asbestos insulation register indicated that there were no records pertaining to the site.

3.7 Heritage Records

The Section 10.7 Certificate indicates that the land is located within a Heritage Conservation Area (Sydney LEP 2012), contains items of Environmental Heritage (Sydney LEP 2012), and is identified as being of state significance and has been entered on the State Heritage Register (Amendment to Heritage Act, 1997, gazetted 2/4/99).

Review of information provided in Curio (2019) indicates the site as archeologically sensitive. As such, recommendations in Curio (21019) indicate that '*heritage should be a key consideration for any future development or expansion decisions, as it will be one of the main constraints'.* To adhere to their recommendations, the methodology of intrusive works was taken into consideration, as discussed further in **Section 6.**

4. Previous Investigations

4.1 Geotechnical Investigation for Proposed School Upgrade at Fort Street Public School, JK Geotechnics (JK 2017[7])

JK Geotechnics was commissioned by Conrad Gargett Ancher Mortlock Wooley, on behalf of the Department of Education, to complete a geotechnical investigation for the proposed Fort Street Public School upgrade. The purpose of the investigation was to obtain geotechnical information on subsurface conditions as a basis for preliminary comments and recommendations on excavation conditions, earthworks, retention, footings and pavements.

As part of the investigation, JK advanced 13 boreholes (BH1 – BH4 and BH6 – BH14 inclusive) to a depth between 2.3 m bgs and 6.0 m bgs and one test pit (TP5) to a depth of 0.85 m bgs.

Fill materials were encountered beneath pavements at locations BH1 to BH4, TP5, BH10 and BH14 to depths ranging between 0.8 m bgs and 2.1 bgs, with the remaining boreholes encountering fill beneath grassed surfaces to depths ranging from 0.4 m bgs to 3.47 m bgs. Encountered fill materials generally comprised gravelly sand, sandy gravel, and clayey sand (with some silty sand in BH11, BH12 and BH13) with inclusions of gravel, fractions of brick, mortar, concrete and timber fragments.

Weathered sandstone bedrock was encountered in all boreholes across the site, increasing in depth from 0.4 m bgs in the south western portion of site to 3.47 m bgs in the south eastern portion.

It was noted that all boreholes were dry on completion of solid flight auger drilling, i.e. no groundwater interception. Boreholes to depths greater than 5.0 m bgs were advanced by coring where water was introduced into the borehole artificially inflating groundwater levels, therefore data about groundwater levels at depth (max 6.0 m bgs) was not recorded.

The report then detailed various recommendations for excavation batters, retaining walls, footings, slabs, pavements and earthquake design parameters which are not applicable to the PSI documented herein.

[7] *Geotechnical Investigation for Proposed School Upgrade at Fort Street Public School*. Fort Street Public School, Upper Fort Street, millers Point, NSW. 28 June 2019. JK Geotechnics (JK 2017)

5. Conceptual Site Model

5.1 Potential Areas of Environmental Concern

Based on the site history review and observations of site conditions during the detailed site inspection, Areas of Environmental Concern (AECs) and associated Contaminants of Potential Concern (COPCs) have been identified across the site and are presented in **Table 5.1**.

Table 5.1 – Areas of Environmental Concern and Associated Contaminants of Potential Concern

AEC	AEC Description	Potentially Effected Media	Extent of AEC	COPC
1	**Fill Materials** Imported and/or reworked fill materials of unknown origin used to create former site levels, comprising materials of unknown character and/or origin	Soil	Site wide	Heavy metals, PAHs, TRH/BTEX, OCPs/OPPs, PCBs, foreign anthropogenic materials and asbestos,
2	**Current and Former Site Structures** Contamination to soils from hazardous building materials utilised in historical and existing site structures that have either been demolished and/or become friable.	Soil	Site wide	Heavy metals and asbestos
3	**Vehicular Fallout** The proximity of the site to key arterial roadways may have resulted in the contamination to soils from vehicle exhausts that utilised leaded fuels.	Soil	Site wide	Lead

5.2 Potentially Contaminated Media, Exposure Pathways and Receptors

Based on the AECs identified at the site, potentially contaminated media that may be present at the site include:

- Surface soils;
- Fill materials (if present); and
- Natural soils/bedrock.

Review of historical information for the site, including JK (2017), has identified the potential for cut and fill activities to have occurred at the site. Fill materials may contain COPCs at concentrations that exceed the applicable human and ecological assessment criteria and therefore may present an unacceptable risk to human and ecological receptors for the future use of the site.

Noting the extensive historical usage of the site, including the construction and demolition of various structures across the site, there is the potential that historical structures utilised hazardous building materials, including asbestos containing materials (ACM) and lead based paints. There is the potential that the demolition of historical structures may have resulted in the contamination of underlying and surrounding fill materials.

In addition to the above, noting that the site is situated in a heavily urbanised area, there is the potential for fill materials, specifically surface (0-0.1 m bgs) and near surface soils (0.1-0.3 m bgs), to be impacted with lead as a result of the deposition of vehicular fallout from the combustion of leaded petroleum products historically used (NSW ban on leaded petrol commenced 2002).

A review of the site history did not identify point sources and/or liquid contaminants at the site that are likely to pose a significant risk for the migration of contamination to underlying natural materials and groundwater.

JBS&G consider the potential for contamination to the underlying natural lithologies/geology to be a function of the primary contamination in soil. Noting the historical and current site uses, JBS&G do not consider primary contamination in soils are likely to be in concentrations that would result in significant contamination to underlying strata.

Noting contaminants likely to exist at the site are in solid form and unlikely to be significantly leachable, contaminants within fill material and other surface soils, and the historical uses of the site, vertical migration through the fill profile into the underlying natural soils and groundwater is unlikely to have occurred.

5.3 Potential for Migration

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

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

The potential contaminants of concern identified as part of the site history review and site inspection are generally in solid form (e.g. heavy metals, asbestos). However, dependent upon concentrations of petroleum hydrocarbons (if present) and from PAH (specifically, naphthalene), potential contamination may present in vapour form from contaminated soils.

As the site is primarily surfaced with structures and impermeable concrete and asphalt hardstand the potential for windblown dust migration of contamination from the site is generally low. The potential for contamination migration via surface water movement, infiltration of water and subsequent migration through the soil profile is considered to be low given the extent of impermeable areas across the site.

Groundwater is not considered to be contaminated from historical and/or current site activities, and as such, is not considered further herein as a potentially contaminated media.

5.4 Potential Exposure Pathways

Potential human receptors of environmental impact include current and future site users (school students, teachers, site maintenance personnel), visitors and construction/maintenance contractors engaged to work at the site who may potentially be exposed to COPCs through inhalation, direct contact and/or ingestion (children) of impacted soils.

Exposure to windblown dusts may pose a potential risk to sensitive human receptors from surface and near surface contamination.

During redevelopment of the site, potential human receptors will include:

- Inhalation of potential COPC dust and migrating upwards from fill material of unknown origins; and/ or
- Potential dermal and oral contact to impacted soils as present at shallow depths and/ or accessible by future service excavations across the extent of the site; and/ or
- Surface water runoff.

The site contains areas covered by grasses and vegetation, presenting ongoing potential ecological receptors. Flora on site are potential receptors of shallow soil contamination if present. No vegetation stress relating to potential contamination from known AECs was observed during site inspection.

5.5 Receptors

Potential human populations who may be exposed to site impacts in the future (if they are not remediated or appropriate management is not implemented prior to or during development) include:

- Current and future site occupants/workers/visitors who may potentially be exposed to COPCs through direct contact and/or ingestion with impacted soils and/or inhalation of dusts/fibres associated with impacted soils; and/or
- Excavation/construction/maintenance workers conducting activities at the site, who may potentially be exposed to COPCs through direct contact and/or ingestion with impacted soils present within excavations and/or inhalation of dusts/fibres associated with impacted soils; and
- Flora species established on the vegetated areas of the site.

5.6 Preferential Pathways

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

Man-made preferential pathways are present throughout the site, generally associated with sub-surface services and fill materials beneath the existing ground surface, and at near surface depths. Fill materials (if present) are anticipated to have a higher permeability than the underlying natural soil and/or bedrock. Sub-surface services are likely also present throughout the site at near surface depths. Preferential pathways can be formed by the generally higher permeability backfill used to re-instate these services.

Preferential pathways are also important in the assessment of potential off-site sources of COPC. Drainage channels are a potential migration source of off-site COPC. Preferential pathways are potentially present in the adjoining road network, as associated with service easements.

6. Sampling, Analytical and Quality Plan

6.1 Data Quality Objectives

DQOs are statements that define the confidence required in conclusions drawn for data produced for a project, and which must be set to realistically define and measure the quality of data needed.

DQOs have been developed for this investigation, as discussed in the following sections

6.1.1 State the Problem

The client has identified that Fort Street Public School has reached student and functional capacity in its current form and planning for the school's expansion has begun. As such, a DSI is required to characterise potential contamination at the site, and to assess whether potential contamination from historical and current activities at the site, or in proximity, may pose an unacceptable risk to future receptors for the proposed school, or, to make recommendations to enable such conclusions to be made.

6.1.2 Identify the Decision

Based on the decision-making process for assessing urban redevelopment sites detailed in EPA (2017[8]), the following decisions must be made:

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

6.1.3 Identify Inputs to the Decision

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

- Historical site information and inspection of the site to identify and/or confirm potential AECs and COPCs at the site;
- The collection and interpretation of environmental data through collection and analysis of soil samples;
- Assessment criteria to be achieved as based on the intended land uses, preliminary design details and project objectives, as defined by assessment criteria nominated in **Section 7**; and
- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance/quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 6.1.6**

Specifically, sufficient data needed to be collected from each of the identified potentially impacted media (e.g. fill material and natural soils) at the site relating to identified AECs and associated COPC.

[8] Contaminated Sites: Guidelines for the NSW Site Auditor Scheme, 3rd Edition, NSW EPA, 2017 (EPA 2017)

6.1.4 Define the Study Boundaries

The study boundaries are limited to site boundaries as described in **Section 2.1** and shown on **Figure 2**. The vertical extent of the investigation was to a maximum depth of 2.7 m bgs – the maximum depth to which investigations were undertaken.

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

6.1.5 Develop Decision Rules

Analytical data for potentially contaminated media was assessed against NSW EPA made or endorsed criteria, presented in **Section 7**.

The decision rules adopted to answer the decisions identified in **Section 6.1.2** are summarised in **Table 6.1**.

Table 6.1 – Summary of Decision Rules

Decisions Required to be Made	Decision Rule
1. Are there any unacceptable risks to on-site future receptors?	Analytical data will be compared against EPA endorsed criteria. Statistical analysis of the data will be completed, where necessary, in accordance with relevant guidance documents, as appropriate, to facilitate the decisions. The criteria in **Section 7** were adopted with respect to soil and surface water. Either: the reported concentrations were all below the Site criteria; Or: no single analyte concentration exceeded 250 % of the adopted site criterion; and the standard deviation of the results was less than 50 % of the Site criterion; And: the 95 % UCL of the average concentration for each analyte was below the adopted site criterion. If the statistical criteria stated above were satisfied, the answer to the decision was **No**. If the statistical criteria were not satisfied, the answer to the decision was **Yes**.
2. Are there any issues relating to the local area background soil concentrations that exceed appropriate soil criteria?	If COPC concentrations in soils exceeded published background concentrations (NEPC 2013), the answer to the decision is **Yes**. Otherwise the answer to the decision is **No**.
3. Are there any chemical mixtures?	Were there more than one group of contaminants present which increase the risk of harm? If there is, the answer to the decision is **Yes**. Otherwise, the answer to the decision is **No**.
4. Are there any aesthetic issues?	If there were any asbestos containing material (ACM) fragments on the ground surface, any unacceptable odours or soil discolouration, or excessive extraneous/foreign/waste materials, the answer to the decision is **Yes**. Otherwise, the answer to the decision is **No**.
5. Is there any evidence of, or potential for, migration of contaminants from the site?	Based on assessment results, is there any evidence of, or the potential for, migration of unacceptable contaminant concentrations to migrate from the site? If yes, the answer to the decisions is **Yes**. Otherwise, the answer to the decision is **No**.
6. Is a site management strategy required?	Is the answer to any of the above decisions Yes? If yes, a site management strategy is required. If no, a site management strategy is not required.

6.1.6 Specific Limits on Decision Errors

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

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, National Environmental Protection Measure (NEPM) (NEPC 2013[9]), appropriate Data Quality Indicators (DQIs, used to assess quality assurance / quality control) and standard JBS&G procedures for field sampling and handling.

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

The pre-determined DQIs established for the project are discussed below in relation to the PARCCS parameters and are shown in **Table 6.2**.

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

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

Table 6.2 – Data Quality Indicators

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

[1] If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error occurs in field.
[2] A qualitative assessment of compliance with standard procedures and appropriate sample collection methods will be completed during the DQI compliance assessment.

6.1.7 Optimise the Design of Obtaining Data

Various strategies for developing a statistically based sampling plan are identified in EPA (1995[10]), including judgemental, random, systematic and stratified sampling patterns.

For a site of approximately 6,200 m^2, NSW EPA (1995) recommend a minimum of15 to 16 sampling locations. Noting the sensitive nature of the site, JBS&G undertook sampling at 18 locations across the site utilising a combination of systematic and targeted sampling approaches. Noting the archaeologically significance of the site, JBS&G collected soils samples from a combination of trenches that were advanced by Curio for dual-purpose assessment of site characterisation and archaeological investigations and four test pits, as outlined in **Table 6.3**. Soil sample locations are shown on **Figure 4.**

[10] *Contaminated Sites: Sampling Design Guidelines*. NSW EPA 1995 (EPA 1995)

6.2 Investigation Methodology

Given the archaeological significance of the site, soil samples were collected from seven trenches that were excavated under the supervision of JBS&G and Curio. Soil samples were collected from a portion of the excavated trenches and where this was the case, were denoted as a testpit (TP) location (TP01A, TP01B, TP02A, TP02B, TP03A, TP03B, TP04A, TP04B, TP05A, TP05B, TP06A, TP06B, TP07A and TP07B). An additional four testpits were advanced across the site (TP08, TP09, TP10, TP11).

6.2.1 Soil Sampling Methodology

The seven trenches and four additional test pits were advanced by excavator. Soil samples were collected from the vertical face of the excavated trench/test pits, via hand or where test pits were greater than 1.5 m, representative soil samples from the centre of the excavator bucket. Soil samples were generally collected from the ground surface (0-0.1m) (if not hardstand present), directly underneath the hardstand (approximately 0.2 m), or the next fill layer, 0.5 m and then at 0.5 m intervals to a maximum depth of 2.7 m or 0.3 m into natural materials (or prior refusal), whichever was the shallower. During the collection of soil samples, features such as seepage, discolouration, staining and odours were noted on test pit logs, included as **Appendix G**.

Collected soil samples were immediately transferred to laboratory supplied sample jars and where appropriate, polyethylene zip lock bags. The sample containers were labelled, sealed and transferred to a chilled esky for sample preservation prior to and during shipment. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory. Based upon field observations, selected samples were analysed in accordance with the laboratory schedule (**Table 6.3**).

JBS&G note that not all soil samples collected were analysed. All samples will remain at the primary laboratory for a period of two months from the date of sampling. This will allow future analysis to be completed in the event that further information is required to characterise site conditions, provided that proposed analytes remain within technical holding times.

6.2.2 Duplicate and Triplicate Sample Preparation

At selected sample locations, sufficient soil was collected in order to provide a primary, a blind (intra-laboratory) duplicate and a blind (inter-laboratory) triplicate sample using the sampling methodology outlined above. The collected samples were divided laterally into three samples with minimal disturbance to reduce the potential for loss of volatiles and placed in three clean glass jars, sample bags or bottles as appropriate. Soil samples were not homogenised in order to minimise the potential loss of volatiles.

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

6.2.3 Decontamination

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

Representative rinsate samples were collected from non-disposable sampling equipment following completion of each day of field sampling activities to determine the effectiveness of the decontamination procedures implemented on re-usable sampling equipment

6.3 Laboratory Analysis

JBS&G subcontracted Eurofins MGT Ltd (Eurofins), a NATA accredited laboratory, as the primary laboratory for the required chemical analyses. The secondary laboratory for the chemical analyses was ALS Environmental (ALS). The analytical schedule adopted for the investigation is summarised **Table 6.3**.

Table 6.3 – Laboratory Schedule

Sample Type	No. Sample Locations	Analyses (exc. QA/QC)
Soil	18 x sample locations	Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 34 samples Lead - 40 PAH – 40 samples TRH/BTEX – 37 samples OCPs/OPPs – 11 samples VOCs – 10 samples PCBs – 9 samples Asbestos (500 mL) – 20 samples Asbestos (presence/absence) – 2 samples

In addition to the primary sample analyses as outlined in **Table 6.3**, field QA/QC samples were collected/prepared and submitted for analysis at the densities required to meet the project DQI requirements outlined in **Table 6.2**.

7. Assessment Criteria

7.1 Regulatory Guidelines

The investigation was undertaken with consideration to aspects of the following guidelines and technical documents, as relevant:

- National Environment Protection (Assessment of Site Contamination) Measure 2013 (as amended 2013), National Environment Protection Council (NEPC 2013);
- Guidelines for Consultants Reporting on Contaminated Sites, NSW OEH (OEH 2011);
- Guidelines for the NSW Site Auditor Scheme, 3rd Edition, NSW EPA, 2017 (EPA 2017);
- Guidelines on Duty to Report Contamination under the Contaminated Land Management Act 1997, NSW EPA 2015 (EPA 2015);
- *Sampling Design Guidelines,* NSW EPA, September 1995 (NSW EPA 1995);

7.2 Soil Assessment Criteria Selection

The NEPC (2013) NEPM provides risk-based investigation and screening levels for selected organic and inorganic chemicals in soils. Different levels are provided for a variety of exposure settings including residential, open-space / parks / recreational and commercial / industrial land uses.

It is understood that the site's current and future use will be for educational purposes for primary school students, i.e. up to Year 6. In accordance with the applicable land use scenarios outlined in NEPC (2013) and the respective risk assessment assumptions utilised in their formulation, analytical data will be compared against the following human health and ecological investigation and screening levels (HILs/HSLs and EILs/ESLs):

- HIL-A: Residential with Accessible Soils (includes Primary Schools);
- HSL-A: Residential with Accessible Soils (includes Primary Schools) for TRH compounds;
- HSL-A: Residential with Accessible Soils (includes Primary Schools) for asbestos (ACM and AF/FA)
- EIL & ESL – urban residential and public open space (coarse soil); and
- In addition to the above, aesthetic considerations as per NEPC (2013) will be considered during the current investigation.

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

The methodology to derive EILs as presented in NEPC (2013) accommodates consideration of ambient background concentrations (ABCs) and added contaminant limits (ACLs) based on a range of physicochemical soil properties. ABCs were selected from published values in Olzworthy et al. (1995[11]) and ACLs were derived based on the NEPC (2013) EIL calculator incorporating soil physicochemical properties including pH, cation exchange capacity (CEC) and approximate percent clay content. The derived EILs for the site are presented in **Table 7.1** for areas of ecological significance and residential/public open spaces.

[11] *Trace Element Concentrations in Soils from Rural and Urban Areas of Australia*. Henry Olzworth Et. Al, 1995, Ozlworthy Et Al 1995

Table 7.1 Derivation of EILs

Physicochemical Parameters (Average)		
CEC (meq/100g)	pH (pH units)	% Clay
4.8	6.8	14.5

Investigation Levels			
Contaminant	ABC	ACL	EIL
	NSW Old Suburb High Traffic	Urban Residential and Public open Space	Urban Residential and Public Open Space
Arsenic	Not Applicable	Not Applicable	100
Chromium (III)	15	400	415
Copper	41	400	441
DDT	Not Applicable	Not Applicable	180
Lead	225	1100	1325
Naphthalene	Not Applicable	Not Applicable	170
Nickel	6	30	36
Zinc	196	230	426

Assessment of aesthetic impacts was also completed based on qualitative consideration of the presence of odours, staining, visible asbestos or substantial anthropogenic materials in or on soils.

8. Quality Assurance / Quality Control

An assessment of QA/QC was undertaken by calculation of DQIs for the data generated as part of the assessment activities as outlined in **Section 6.1.5**. QA/QC results for the investigation are included as **Appendix I**.

The assessment of site suitability has been assessed against the PARCCS parameters of Precision, Accuracy, Representativeness, Completeness, Comparability and Sensitivity as presented in **Section 6.1.6**.

The field sampling, inspection and handling procedures produced QA/QC results which indicated that the data set is of an acceptable quality and suitable for use in site characterisation.

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

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

9. Results

9.1 Lithology and Soil Observations

Eighteen investigation locations (TP01A to TP07A, TP01B to TP07B and TP08 to TP11) were excavated via excavator on 10, 11, 15 and 16 July 2019 with test pit logs presented in **Appendix G**. A summary of soil sampling location information is presented in **Figure 3.**

Ground surfaces across the site comprised a combination of concrete and asphalt hardstand footpaths and access driveways, predominantly within the northern portion of the site. The remainder of the site was generally surfaced with garden beds and grass cover with accessible soils.

Fill materials were encountered at most sample locations from the ground surface (or beneath hardstands) to depths of between 0.4 and 2.7 m bgs and generally comprised silty gravels, gravelly sand and clayey gravelly sand. The depth of fill materials was generally shallowest in the western portion of the site, with increasing depth towards the east. Inclusions of medium dense, angular, road base gravels were encountered within fill materials at locations TP01A, and TP02A. Large sandstone cobbles and boulders were also encountered as fill materials at locations TP01B, TP02A, TP02B and TP06A. Layers of asphalt road base, approximately 50 mm in thickness, were encountered at a depth of 0.55 m and 1.35 m bgs at locations TP07A, TP07B, TP08 and TP11. A layer of sandstone pavers was encountered at a depth of 0.4 to 0.45 m bgs at location TP09. Notably, a layer of sandy silt topsoil was encountered directly beneath the sandstone pavers at location TP09 with inclusions of trace ash and fine sandstone cobbles. Relic ash and slag was encountered at TP05A (0.14-0.23 m bgs) with black staining also noted at TP05A (0.14-0.23 m bgs) and TP02B (0.05-0.25 m bgs). Construction and demolition waste including fragments of bricks were observed within fill materials at location TP11 at a depth of 0.35 m to 0.80 m bgs with some black staining also noted.

Three small fragments of non-friable (bonded) ACM were identified in fill materials excavated from TP01B from a depth of 0.2-0.3 m bgs. The three fragments of ACM were collected by the JBS&G Field Scientist and were subsequently submitted for laboratory analysis (sample ID: TP01B_FRAG01 and TP01B_FRAG02). The testing laboratory confirmed the presence of chrysotile and amosite asbestos in both fragments, and crocidolite in TP01B_FRAG01. No other fragments of ACM in soil were observed by JBS&G from materials excavated from the trench associated with TP01A and TP01B. An additional soil sample was collected from material from this sample interval for asbestos in soils analysis, in which no asbestos was reported by the testing laboratory.

Natural material underlying fill materials at the site typically comprised a weathered sandstone profile (consistent with geological setting of the site) comprising a fine to medium grained white to red sand (weathered sandstone) overlying sandstone bedrock. It is noted that sandstone bedrock was encountered directly underlying fill materials at locations TP01A, TP01B, TP07A, TP07B, TP08, TP10 and TP11.

9.2 Soil Contaminant Analytical Results

Detailed laboratory reports and chain of custody documentation are provided in **Appendix H**. Summarised soil analytical data from the current assessment are presented in **Table A.**

9.2.1 Heavy Metals

A total of 34 samples were analysed for heavy metals in soil. Individual heavy metal concentrations were generally less than the adopted site assessment criteria with the exception of lead, nickel and zinc, outlined below.

Lead was reported above the adopted HIL of 300 mg/kg at:

- QA01 (Parent sample TP02B 0.1-0.2) (355 mg/kg);
- TP4B 0.2-0.3 (2700 mg/kg);

- TP5B 0.1-0.2 (1300 mg/kg);
- TP6A 0.05-0.2 (870 mg/kg);
- TP7A 1.8-1.9 (470 mg/kg);
- TP7B 1.9-2.0 (520 mg/kg); and
- TP9 0.7-0.8 (100mg/kg)

Nickel was reported in samples TP1A 0.1-0.2 (120 mg/kg) and TP1B 0.2-0.3 (56 mg/kg) exceeding the EIL of 35 mg/kg.

Zinc was reported above the site specific EIL (300 mg/kg) in samples TP4B 0.2-0.3 (1200 mg/kg), TP5A 0.14-0.23 (550 mg/kg), TP5B 0.1-0.2 (610 mg/kg) and TP6A 0.05-0.2 (1600 mg/kg).

9.2.2 Total Recoverable Hydrocarbons

A total of 37 samples were submitted for TRH analysis in soil. Exceedances of the adopted site criteria are outlined below.

TRH in the C16-C34 fraction were reported above the ESLs (300mg/kg) and Management Limits (2,500 mg/kg) at:

- TP1B 0.2-0.3 (10,000 mg/kg)
- TP1B 0.2-0.3 (6800 mg/kg)
- TP02B 0.1-0.2 (5700 mg/kg), QA01 (7990 mg/kg) and QC01 (7100 mg/kg);
- TP5A 0.14-0.23 (3300 mg/kg); and
- TP5B 0.1-0.2 (6400 mg/kg).

Exceedances of the NEPM ESLs for urban residential and public open space (300 mg/kg) were also reported in the following samples for the C16-C34 Fraction;

- TP7A 1.8-1.9 (530 mg/kg)
- TP7B 1.9-2.0 (1200 mg/kg);
- TP90.7-0.8 (490 mg/kg);
- TP10 0.5-0.6 (300 mg/kg) and
- TP11 1.4-1.5 (350 mg/kg)

The C34-C40 fraction reported a concentration of 3180 mg/kg in sample QA01 (parent sample TP02B 0.1-0.2), exceeding the adopted ESL of 2800 mg/kg for urban residential and public open space.

Concentrations of the C10-C16 Less Naphthalene (F2) Fraction was reported to exceed the adopted HSL of 110 mg/kg and the ESL of 120 mg/kg in samples TP1B 0.2-0.3 (349 mg/kg), TP02B 0.1-0.2 (150 mg/kg) and TP7B 1.9-2.0 (240 mg/kg).

9.2.3 Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene

34 samples were submitted for analysis of BTEXN concentrations within soils. Reported concentrations were generally less than the adopted site assessment criteria with the exception of Naphthalene, which exceeded the HSL A & B (3 mg/kg) for vapour intrusion in two samples; TP1B 0.2-0.3 (3.2 mg/kg) and TP7B 1.9-2.0 (7.9 mg/kg).

9.2.4 Polycyclic Aromatic Hydrocarbons

A total of 38 samples were submitted for PAH analysis in soils. Individual PAH concentrations were generally less than the adopted site assessment criteria with the exception of analytes Benzo(a)pyrene, Carcinogenic PAHs as B(a)P TEQ, and Total PAHs.

Benzo(a)pyrene was reported above the ESL (0.7 mg/kg) for urban residential land use at the following sample locations;

- TP1A 0.1-0.2 (0.7 mg/kg);
- TP1B 0.2-0.3 (150 mg/kg);
- TP02B 0.1-0.2 (89 mg/kg), QA01 (76.8 mg/kg) and QC01 (76 mg/kg) and TP2B 0.5-0.6 (4.7 mg/kg);
- TP4A 0.2-0.3 (7.2 mg/kg);
- TP5A 0.14-0.23 (67 mg/kg);
- TP5B 0.1-0.2 (7.9 mg/kg) and TP5B 0.3-0.4 (0.8 mg/kg);
- TP6A 0.05-0.2 (4.2 mg/kg);
- TP6B 0.1-0.2 (2.1 mg/kg);
- TP7A_1.8-1.9 (6.8 mg/kg) and TP7A 2.4-2.5 (2.4 mg/kg);
- TP7B_0.0-0.2 (0.7 mg/kg) and TP7B_1.9-2.0 (16 mg/kg);
- TP9 0.7-0.8 (5.5 mg/kg);
- TP10 0.5-0.6 (2.6 mg/kg) and TP10 2.0-2.1 (2.1 mg/kg);
- TP11 0.0-0.15 (1.5 mg/kg) and TP11 1.4-1.5 (5.5 mg/kg)

Carcinogenic PAHs as Benzo(a)pyrene TEQ was reported above the adopted HIL (3 mg/kg) at the following sample locations;

- TP1B 0.2-0.3 (218.8 mg/kg);
- TP02B 0.1-0.2 (136.3 mg/kg), QA01 (117.9 mg/kg) and QC01 (114 mg/kg) and TP2B 0.5-0.6 (7.151 mg/kg);
- TP02B 0.5-0.6 (7.2 mg/kg);
- TP4A 0.2-0.3 (10.93 mg/kg);
- TP5A 0.14-0.23 (99.57 mg/kg);
- TP5B 0.1-0.2 (11.99 mg/kg);
- TP6A 0.05-0.2 (6.171 mg/kg);
- TP6B 0.5-0.6 (12.51 mg/kg);
- TP7A_1.8-1.9 (10.31 mg/kg);
- TP7A 2.4-2.5 (3.281 mg/kg);
- TP7B_1.9-2.0 (24.95 mg/kg);
- TP9 0.7-0.8 (8.306 mg/kg);
- TP10 0.5-0.6 (4.124 mg/kg);
- TP10 2.0-2.1 (3.514 mg/kg); and

- TP11 1.4-1.5 (8.785 mg/kg).

Total PAHs reported in samples TP1B 0.2-0.3 (1800 mg/kg), TP02B 0.1-0.2 (968.7 mg/kg), QC01 (743.5 mg/kg) and TP5A 0.14-0.23 (869.8 mg/kg) exceeded the HIL A of 300 mg/kg.

9.2.5 Organochlorine Pesticide

A total of 11 samples were submitted for OCP analysis. All reported concentrations were below the laboratory LOR and site assessment criteria.

9.2.6 Polychlorinated Biphenyls

A total of 9 samples were submitted for PCB analysis. All reported concentrations were below the laboratory LOR and site assessment criteria.

9.2.7 Volatile Organic Compounds

A total of 10 samples were submitted for VOC analysis. All reported concentrations were below the laboratory LOR and site assessment criteria.

9.2.8 Asbestos

A total of 20 samples were analysed for concentrations of asbestos in soils (AS4964-2004). No asbestos as ACM or AF/FA was reported by laboratory analysis of any soil sample.

Three small fragments of non-friable (bonded) ACM were identified in fill materials excavated from TP01B from a depth of 0.2-0.3 m bgs. The three fragments of ACM were collected by the JBS&G Field Scientist and were subsequently submitted for laboratory analysis (sample ID: TP01B_FRAG01 and TP01B_FRAG02). The testing laboratory confirmed the presence of chrysotile and amosite asbestos in both fragments, and crocidolite in TP01B_FRAG01.

10. Site Characterisation

Based on the decision-making process for assessing urban redevelopment sites detailed in EPA (2017) and discussed in **Section 6.1.5**, the decisions required to be made are discussed below.

10.1 Potential Risks to Future Onsite Receptors

The assessment of site suitability is generally undertaken with consideration to the risks various compounds in the environment potentially pose to human and ecological health under one or more land use scenarios. A Tier 1 assessment of potential risk is undertaken by comparison with generic land use criteria such as published by NEPC (2013).

In consideration of the site's data set, potentially unacceptable risks to the health of human receptors at the site under the adopted land use, pursuant to NEPC (2013), were constrained to the heavy metal of lead, PAHs (naphthalene, carcinogenic PAHs as B(a)P TEQ, total PAHs) and TRH.

A review of the testpit logs for the site indicate that several sample locations, and particularly TP2A and TP2Bwhere the highest concentrations of PAHs were reported, were observed to contain slag inclusions within fill materials – the likely source of PAHs at these locations. This was also the case for TP10.

TP05A reported the second highest concentrations of PAHs from materials sampled from 0.14 to 0.23 m bgs. Review of the testpit log for this location indicates that materials from this interval were asphaltic. The binding agent utilised in asphalt is bitumen - a hydrocarbon product comprised of long-chain hydrocarbons and rich in PAHs.

Potentially unacceptable health risks from the potential intrusion of vapours to future site structures was noted from naphthalene at two locations, TP1B 0.2-0.3 and TP7B 1.9-2.0. The former location was advanced in proximity to the school car park (west), and the latter was located near the eastern boundary. Impacted material at TP7B 1.9-2.0 directly underlie an asphaltic roadbase layer that was identified at 1.5 to 1.6 m bgs which is considered to be the likely source of contamination at this location. JBS&G consider that there are currently no risks posed by the reported naphthalene impacts as there are currently no structures overlying the sampling locations and therefore no risk for the accumulation of vapours. Furthermore, the reported concentrations only marginally exceed the adopted Tier 1 criteria and are likely to attenuate over time due to the volatile nature of the compounds.

In addition to the above, lead was identified in surface and near surface soils at concentrations that pose a potentially unacceptable risk to current and future users of the site. Based on a review of the historical and environmental setting of the site, it is likely that soil impacts are associated with the cross-contamination from the historical use of lead-based paints on structures across the site and possibly from the deposition in surface soils from vehicle exhaust that historically utilised lead-based petrol from nearby roadways. In addition, sources of lead in fill materials may also be attributed to the presence of ash and slag, as observed in fill materials at the site. The key pathway for exposure of lead is by ingestion of soils, and as such, in locations of lead impacts that are covered by hardstand, JBS&G does not consider there to be a complete source-receptor pathway, thus eliminating the risk of exposure. However, lead was reported at a concentration of 1,300 mg/kg at TP5B (see **Figure 4**) – an area of the site not covered by hardstand. As such, whilst potential exposure by ingestion is limited to periods when this area is accessed and ground surfaces can be disturbed, there is still a possibility of accidental/incidental ingestion. Noting that soils from this area of the site are readily accessible (combination of exposed soils and grasses) to students as well as teachers, JBS&G recommend interim management of the potential exposure risks be undertaken such that access to these soils is restricted, either by fencing the area off, or by providing physical separation to soils (for example, utilising artificial turf) to restrict exposure to soil but allow access to the area.

In relation to the fragments of non-friable (bonded) asbestos identified in soils from TP01B, JBS&G do not consider there to be unacceptable risks to future users from soils at TP01B from asbestos noting that the fragments were removed from the soils for laboratory analysis, subsequent inspection of the trench and spoil did not identify any additional fragments, and laboratory data for soils did not identify the presence of asbestos in soil. An asbestos clearance certificate was issued by JBS&G for these materials, which has been presented as **Attachment J**.

Risks to ecological health are often considered in respect to the risks various compounds within the environment pose to ecological health under a given land use scenario and exist for the protection of soil processes, plant species and organisms that inhabit or contact soils.

In relation to the site's data set, concentrations of COPCs were generally reported below the adopted ecological criteria (ESLs/EILs), with the exception of the heavy metals of nickel and zinc, petroleum hydrocarbons, and B(a)P, as presented in **Section 9**.

A review of the testpit logs indicates that the elevated concentrations of nickel and zinc in soils is likely attributed to the presence of igneous gravels in roadbase gravels (TP01), and potential historical sources (slag and/or metal use from historical usage, as evident by archaeological footings at TP05).

In relation to the reported concentrations of B(a)P and TRH reported in excess of the adopted ecological screening levels, observations made during the completion of field works indicated that vegetation in proximity to sampling locations that reported elevated levels of these compounds, and across the site in general, appeared to be healthy with no visual indicators of vegetative stress, indicating that soil processes responsible for ecological health did not appear to be inhibited. Furthermore, NEPC (2013) notes that high molecular weight PAHs such as B(a)P are not readily taken up by plants, and as such are unlikely to pose an unacceptable risk to plant growth. This would particularly be the case of PAH sources such as slag or asphalt where the PAHs are bound into the matrix.

With the exception of lead at TP5B, JBS&G do not consider there to be a complete contamination source-receptor pathway that would present a potentially unacceptable risk to current users of the site.

10.2 Background Soil Concentrations

Soil samples collected from material indicated metal concentrations were below the background metal concentrations provided in Olszowy et. al. (1995) and were generally consistent with the adopted site criteria (**Section 7**) (for natural materials only).

10.3 Chemical Mixtures

There were no potential chemical mixtures identified during the investigation that may pose an unacceptable contamination issue with respect to current and permissible land uses.

10.4 Aesthetic Issues

JBS&G noted potential aesthetic issues during the intrusive investigations at the site, relating primarily to anthropogenic inclusions of asphalt, slag, bricks and glass within fill materials. These material types were not observed in surface soils at the site. In addition, stained materials were identified at TP10 in materials directly underlying an asphaltic layer at approximately 1.6 m bgs.

As per NEPC (2013) guidance, the presence of small quantities of non-hazardous inert materials should not be a cause of concern or limit the use of a site. Furthermore, sites with well-covered known inert materials that present no health hazard such as brick fragments are of low concern for both non-sensitive and sensitive land uses.

As such, JBS&G do not consider there to be any significant aesthetic impacts for the intended use the site based on the collected data.

10.5 Potential Migration of Contaminants

The potential for migration of contaminants offsite is considered low given the nature, distribution and depth of identified contamination. JBS&G note that concrete/asphalt hardstand exists across a large portion of materials at the site and this is likely to be the case for future redevelopment schemes. Furthermore, the potential for aeolian transport of contamination from areas of the site that are not covered by hardstand is considered low due to the presence of vegetation which acts to retard dust generation.

10.6 Site Management Strategy

The assessment identified potential risks to current uses from lead in surface soils, and to development and future use from lead, PAH and TRH impacts in fill. An interim management strategy is required to address the potential risk to current users from lead in surface soils. A further management strategy is required to address all identified contamination issues for the proposed development and future use of the site.

11. Conclusions and Recommendations

Based on the findings of this investigation and subject to the limitations presented in **Section 12**, the site currently has potentially unacceptable risks to current and future users of the site in a primary education setting (residential with minimal access to soils land use, consistent with NEPC (2013)). However, it is considered the site can be made suitable for current and future use subject to implementation of interim and longer-term management strategies addressing identified contamination at the site.

For current use of the site, it is recommended an interim environmental management plan (EMP) be developed and implemented to address lead contamination in surface soil at TP05B. Interim management actions may include restricting access to the area or providing additional physical separation to underlying soils, until a longer-term management solution is implemented. A plan showing the proposed interim management area is provided as **Figure 5**.

For the development and future use, JBS&G recommend the development of a Remedial Action Plan (RAP) to guide the required remediation in order for the site to be made suitable for the proposed future land use.

12. Limitations

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

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

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

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

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

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

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

Figures



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: R03 Rev A	Date 23/07/2019
Drawn By: AV	Checked By: RL
Scale 1:7,500	

0 80 160

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SITE LOCATION

FIGURE 1

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R03 Rev A\56262_01_SiteLoc.mxd

Reference: © OpenStreetMap (and) contributors, CC-BY-SA



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: R03 Rev A	Date 23/07/2019
Drawn By: AV	Checked By: RL
Scale 1:750	

0 9 18

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SITE LAYOUT

FIGURE 2

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R03 Rev A\56262_02_SiteLay.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019



Legend:

- Approximate Site Boundary
- Approximate Trench Locations
- Test Pit Sample Locations

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: R03 Rev A	Date 2/08/2019
Drawn By: AV	Checked By: RL
Scale 1:750	

0 9 18
metres

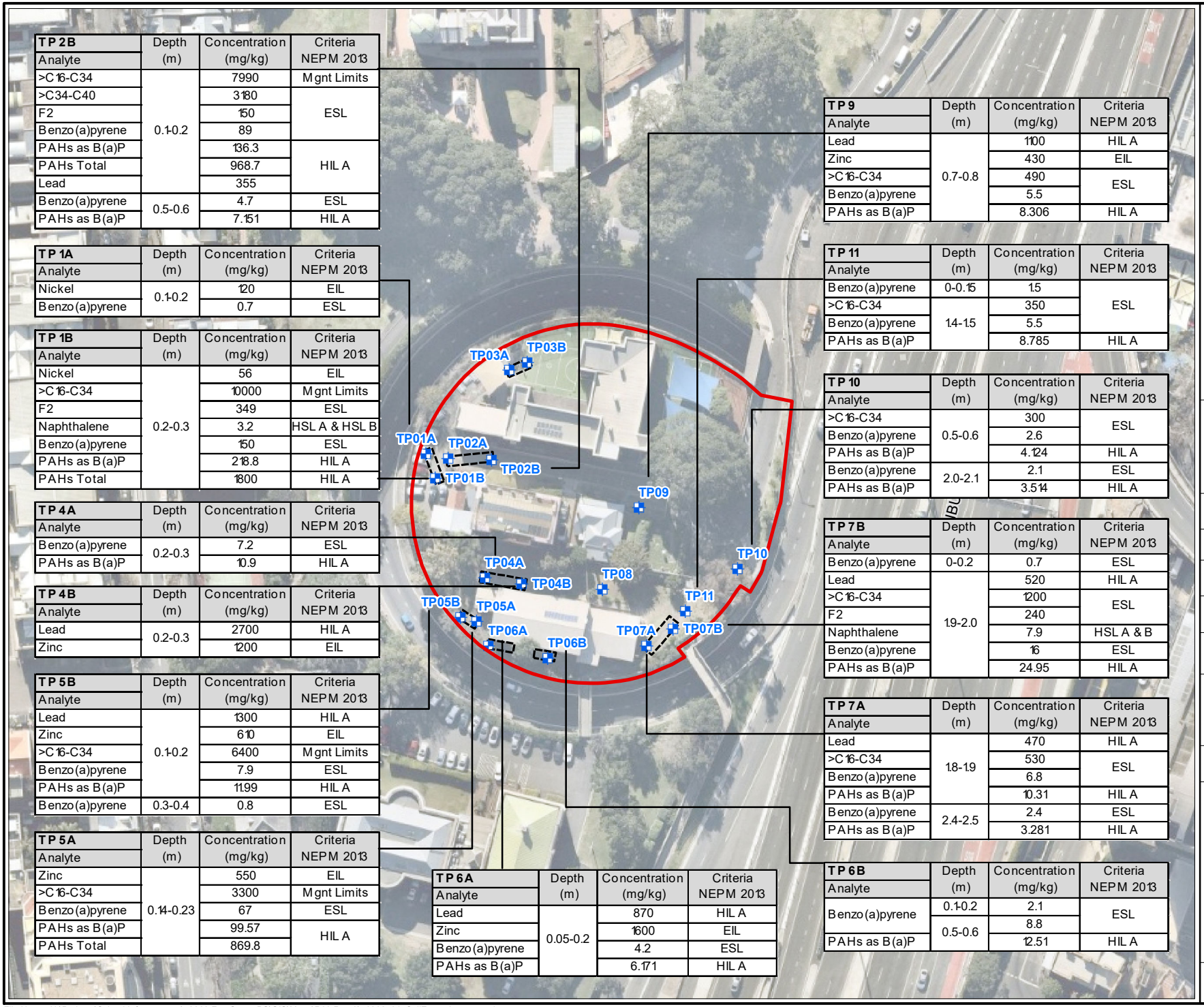
Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SAMPLING LOCATIONS

FIGURE 3

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R03 Rev A\56262_03_SampleLoc.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019



TP 2B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
>C16-C34	0.1-0.2	7990	Mgnt Limits
>C34-C40		3180	ESL
F2		150	
Benzo(a)pyrene		89	
PAHs as B(a)P		136.3	HIL A
PAHs Total		968.7	
Lead		355	
Benzo(a)pyrene	0.5-0.6	4.7	ESL
PAHs as B(a)P		7.151	HIL A

TP 1A	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Nickel	0.1-0.2	120	EIL
Benzo(a)pyrene		0.7	ESL

TP 1B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Nickel	0.2-0.3	56	EIL
>C16-C34		10000	Mgnt Limits
F2		349	ESL
Naphthalene		3.2	HSL A & HSL B
Benzo(a)pyrene		150	ESL
PAHs as B(a)P		218.8	HIL A
PAHs Total		1800	HIL A

TP 4A	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Benzo(a)pyrene	0.2-0.3	7.2	ESL
PAHs as B(a)P		10.9	HIL A

TP 4B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Lead	0.2-0.3	2700	HIL A
Zinc		1200	EIL

TP 5B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Lead	0.1-0.2	1300	HIL A
Zinc		610	EIL
>C16-C34		6400	Mgnt Limits
Benzo(a)pyrene		7.9	ESL
PAHs as B(a)P		11.99	HIL A
Benzo(a)pyrene	0.3-0.4	0.8	ESL

TP 5A	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Zinc	0.14-0.23	550	EIL
>C16-C34		3300	Mgnt Limits
Benzo(a)pyrene		67	ESL
PAHs as B(a)P		99.57	HIL A
PAHs Total		869.8	

TP 6A	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Lead	0.05-0.2	870	HIL A
Zinc		1600	EIL
Benzo(a)pyrene		4.2	ESL
PAHs as B(a)P		6.171	HIL A

TP 9	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Lead	0.7-0.8	1100	HIL A
Zinc		430	EIL
>C16-C34		490	ESL
Benzo(a)pyrene		5.5	
PAHs as B(a)P		8.306	HIL A

TP 11	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Benzo(a)pyrene	0-0.15	1.5	ESL
>C16-C34	1.4-1.5	350	
Benzo(a)pyrene		5.5	
PAHs as B(a)P		8.785	HIL A

TP 10	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
>C16-C34	0.5-0.6	300	ESL
Benzo(a)pyrene		2.6	
PAHs as B(a)P		4.124	HIL A
Benzo(a)pyrene	2.0-2.1	2.1	ESL
PAHs as B(a)P		3.514	HIL A

TP 7B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Benzo(a)pyrene	0-0.2	0.7	ESL
Lead	1.9-2.0	520	HIL A
>C16-C34		1200	ESL
F2		240	
Naphthalene		7.9	HSL A & B
Benzo(a)pyrene		16	ESL
PAHs as B(a)P		24.95	HIL A

TP 7A	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Lead	1.8-1.9	470	HIL A
>C16-C34		530	ESL
Benzo(a)pyrene		6.8	
PAHs as B(a)P		10.31	HIL A
Benzo(a)pyrene	2.4-2.5	2.4	ESL
PAHs as B(a)P		3.281	HIL A

TP 6B	Depth (m)	Concentration (mg/kg)	Criteria NEPM 2013
Analyte			
Benzo(a)pyrene	0.1-0.2	2.1	ESL
	0.5-0.6	8.8	
PAHs as B(a)P		12.51	HIL A

Legend:

- Approximate Site Boundary
- Approximate Trench Locations
- Test Pit Sample Locations

JBS&G

Job No: 56262

Client: School Infrastructure NSW

Version: R03 Rev A | Date 8/08/2019

Drawn By: AV | Checked By: RL

Scale 1:1,250

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SOIL SAMPLE EXCEEDANCES

FIGURE 4

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R03 Rev A\56262_04_SoilExceedances.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019



Legend:

- Approximate Site Boundary
- Approximate Trench Locations
- Area Requiring Management
- Test Pit Sample Locations

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: R03 Rev A	Date 8/08/2019
Drawn By: AV	Checked By: RL
Scale 1:750	

0 9 18
metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

INTERIM MANAGEMENT AREA

FIGURE 5

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R03 Rev A\56262_05_ManagementArea.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019

Tables

Table A: Soil Anlaytical Data
Project Number: 56262
Project Name: SI FSPS

	Metals & Metalloids								TRHs (NEPC 2013)							BTEXN								Polycyclic Aromatic Hydrocarbons																			
	Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	>C6-C10 Fraction	>C6-C10 less BTEX (F1)	Benzene	BTEX (Total)	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Carcinogenic PAHs as B(a)P TEQ	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	2	0.4	2	5	5	0.1	2	5	50	100	100	50	50	10	10	0.1		0.1	0.1	0.1	0.2	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPC 2013 EIL, EILs Aged Sediment (Site Specific)	100		415	441	1325		36	426															170																		
NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil										300	2800		120		180	50		70	85			105						0.7													
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Residential - HSL A																																									
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																																									
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Coarse									1000	2500	10000			700																											
NEPM 2013 Soil HIL A	100	20	100	6000	300	40	400	7400											160														3						300		
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Sand 0 to <1m													110		45	0.5		55	160			40	3																	
Field ID	**Sampled Date**	**Lab Report Number**																																								
TP1A_0.1-0.2	11/07/2019	665365	63	<0.4	19	57	43	0.1	120	180	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	0.6	0.7	0.5	<0.5	0.5	0.7	1.145	<0.5	1.2	<0.5	<0.5	<0.5	5.5	1.3
TP1A_0.3-0.38	11/07/2019	667580	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.2-0.3	11/07/2019	665365	46	<0.4	19	52	76	0.2	56	180	350	10,000	1700	12,050	349	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	3.2	3.4	31	50	170	150	120	44	130	150	218.8	19	310	10	59	230	1800	320
TP1B_0.2-0.3	11/07/2019	667580	-	-	-	-	-	-	-	-	270	6800	620	7690	267	<20	<20	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.4-0.5	11/07/2019	665365	7.6	<0.4	17	29	25	<0.1	5.5	43	<50	160	<100	160	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.6-0.7	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG01	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG02	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.05-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.2-0.3	11/07/2019	665365	27	<0.4	16	10	14	<0.1	6.2	43	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.855	<0.5	1	<0.5	<0.5	<0.5	2.4	0.9
TP02B_0.1-0.2	11/07/2019	665365	3	<0.4	9	100	74	0.2	16	83	150	5700	1600	7450	150	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	0.8	1	10	18	91	89	73	38	68	82	136.3	18	170	2.9	49	68	968.7	190
QA01	16/07/2019	ES1922101	<5	<1	10	116	355	0.2	24	105	<50	7990	3180	11,200	<50	<10	<10	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<4	13.2	25.6	93.6	76.8	114	49	38.1	82	117.9	11.4	192	<4	37.8	73.6	-	202
QC01	11/07/2019	665365	3.4	<0.4	10	120	180	0.2	23	120	<50	7100	2400	9500	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	6.5	12	77	76	56	30	57	63	114	14	130	<0.5	41	41	743.5	140
TP2B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	<50	150	<100	150	<50	<20	<20	-	-	-	-	-	-	-	<0.5	<0.5	0.7	1.3	4.2	4.7	2.9	2.6	3.8	4.5	7.151	1.1	8.5	0.6	1.9	3.3	49	8.9
TP3A_0.3-0.4	11/07/2019	665365	2.5	<0.4	8.6	16	49	<0.1	<5	18	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP3A_0.6-0.65	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.15-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.3-0.4	11/07/2019	665365	3	<0.4	8.2	<5	<5	<0.1	<5	<5	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP4A_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.2-0.3	11/07/2019	665365	6.5	<0.4	16	25	210	0.4	<5	260	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	1.3	2.8	8.8	7.2	5.3	3.3	6.1	6.9	10.93	1.3	17	0.6	3.1	12	92.7	17
TP4A 0.4-0.5	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP4B_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	667580	-	-	-	-	91	-	-	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.2-0.3	11/07/2019	665365	3.7	0.4	10	19	2700	1	<5	1200	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP4B 0.5-0.6	11/07/2019	667580	-	-	-	-	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5A_0.14-0.23	11/07/2019	665365	2.9	<0.4	6.1	140	130	0.2	9.8	550	<50	3300	580	3880	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	1.9	5.3	38	82	67	58	25	56	72	99.57	9.6	170	3	24	98	869.8	160
TP5A_0.3-0.4	11/07/2019	665365	2.1	<0.4	12	<5	8.3	<0.1	<5	43	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP5B_0.1-0.2	11/07/2019	665365	5.3	0.6	13	43	1300	0.4	9.9	610	<50	6400	1900	8300	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	0.7	1.3	8.6	7.9	6.3	3.2	6.6	6.7	11.99	1.4	16	<0.5	4.4	5.8	84.9	16
TP5B 0.3-0.4	11/07/2019	667580	-	-	-	-	190	-	-	-	<50	<100	<100	<100	<50	<20	<20	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.7	0.6	0.8	0.6	<0.5	0.8	0.8	1.286	<0.5	1.3	<0.5	<0.5	0.7	7.6	1.3
TP6A_0.05-0.2	11/07/2019	665759	5.3	0.5	21	27	870	1.8	7.9	1600	<50	250	<100	250	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	1.1	1.5	4.3	4.2	5.1	2.7	2.3	3.4	6.171	<0.5	8.9	<0.5	4.9	7.5	53.7	7.8
TP6B_0.1-0.2	11/07/2019	665759	5.7	<0.4	10	58	58	<0.1	5.8	65	-	-	-	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	1.4	2.1	1.2	1.2	1.5	1.6	2.928	<0.5	1.6	<0.5	1.4	<0.5	13.8	1.8
TP6B 0.5-0.6	11/07/2019	669214																							<0.5	0.8	0.8	5.9	8.8	5.5	6.3	6.3	6.2	12.51	1.2	9.4	<0.5	6.1	2.8	70.1	10
TP6B_1.0-1.1	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07A_0.4-0.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 0.4-0.5	11/07/2019	669214	2.2	<0.4	8.6	7	21	1.1	<5	26	<50	<100	<100	<100	<50	<20	<20									<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21#2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP7A_1.8-1.9	16/07/2019	666306	5.9	<0.4	18	36	470	0.6	<5	240	<50	530	170	700	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	0.5	<0.5	0.8	2.3	6.3	6.8	4.2	3.9	5.2	6.2	10.31	1.5	12	0.8	3.4	7.3	72.2	11
TP7A 2.4-2.5	16/07/2019	667579	-	-	-	-	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	2	2.4	1.3	0.9	1.9	2.2	3.281	<0.5	3.2	<0.5	0.8	<0.5	19	4.3
TP7B_0.0-0.2	16/07/2019	666306	2.8	<0.4	7.7	18	120	0.1	<5	130	<50	160	<100	160	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	0.6	0.7	0.6	0.6	0.6	0.7	1.168	<0.5	1.3	<0.5	<0.5	<0.5	6.3	1.2
TP7B_1.9-2.0	16/07/2019	666306	3.7	<0.4	9.8	39	520	0.7	<5	210	240	1200	210	1650	240	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	7.9	3.1	9.3	16	21	16	10	7.8	13	18	24.95	3.6	36	18	6.9	41	257.6	30
TP7B 2.1-2.2	16/07/2019	667579	-	-	-	-	6.7	-	-	-	<50	<100	<100	<100	<50	<20	<20	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP7B_2.1-2.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.2	16/07/2019	666306	2.7	<0.4	6.8	13	86	<0.1	5.3	83	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP8_0.6-0.8	16/07/2019	666306	3.2	<0.4	9	34	120	0.9	<5	35	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP9_0.2-0.3	16/07/2019	666306	2.6	<0.4	7.8	5.3	20	<0.1	<5	38	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA02	16/07/2019	ES1922383	<5	<1	5	6	13	<0.1	4	72	<50	<100	<100	<50	<50	<10	<10	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
QC02	16/07/2019	666306	2.5	<0.4	9.3	<5	21	<0.1	<5	35	<50	<100	<100	<100	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP9_0.7-0.8	16/07/2019	666306	8.1	<0.4	16	74	1100	2.1	9.7	430	<50	490	<100	490	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	0.7	1	5.1	5.5	3.8	3.3	4.5	5.3	8.306	1	9.8	<0.5	3.8	4.8	58.6	10
TP9 1.1-1.2	16/07/2019	667579	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP9_1.1-1.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_0.5-0.6	16/07/2019	666306	5.4	<0.4	10	19	110	0.1	6	52	<50	300	180	480	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	0.5	<0.5	1.6	2.6	1.8	2.7	1.6	1.7	4.124	0.8	2.2	<0.5	1.8	0.5	20.3	2.5
TP10_2.0-2.1	16/07/2019	666306	<2	<0.4	7.2	14	90	1	<5	34	<50	240	150	390	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	1.6	2.1	2.4	1.7	2.6	1.7	3.514	0.6	4	<0.5	1.2	1.9	23.5	3.7
TP11_0.0-0.15	16/07/2019	666306	7.2	<0.4	10	37	230	0.1	10	140	<50	260	190	450	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	1.3	1.5	2	1	2.1	1.5	2.655	0.5	2.5	<0.5	0.9	0.9	16.6	2.4
TP11_1.4-1.5	16/07/2019	666306	4.8	<0.4	13	52	270	0.6	<5	280	<50	350	<100	350	<50	<20	<20	<0.1	-	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	0.7	1.7	5.1	5.5	6.8	3.1	4.5	5.4	8.785	1.3	12	<0.5	2.6	7.3	68	12

Table A: Soil Anlaytical Data
Project Number: 56262
Project Name: SI FSPS

			Organochlorine Pesticides																								
			4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	DDD	DDT	DDT+DDE+DDD (Sum of Total)	Dieldrin	delta-BHC	Endosulfan	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	gamma-Chlordane	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.05	1
NEPC 2013 EIL, EILs Aged Sediment (Site Specific)											180																
NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil																											
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Residential - HSL A																											
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																											
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Coarse																											
NEPM 2013 Soil HIL A					6				50			240			270				10				6			300	20
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Sand 0 to <1m																											
Field ID	**Sampled Date**	**Lab Report Number**																									
TP1A_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1A_0.3-0.38	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.2-0.3	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.4-0.5	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.6-0.7	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG01	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG02	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.05-0.2	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP2A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02B_0.1-0.2	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
QA01	16/07/2019	ES1922101	<0.25	<0.25	<0.08	<0.25	<0.25	<0.25	<0.08	<0.25	<1	<0.08	<0.25	<0.25	<0.15	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<1	-
QC01	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP2B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.6-0.65	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.15-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.0-0.1	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP4A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A 0.4-0.5	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP4B_0.0-0.1	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5A_0.14-0.23	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5B_0.1-0.2	11/07/2019	665365	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP5B 0.3-0.4	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6A_0.05-0.2	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6B_0.1-0.2	11/07/2019	665759	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP6B 0.5-0.6	11/07/2019	669214																									
TP6B_1.0-1.1	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07A_0.4-0.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 0.4-0.5	11/07/2019	669214																									
TP7A_1.8-1.9	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 2.4-2.5	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_1.9-2.0	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B 2.1-2.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_2.1-2.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.6-0.8	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.2-0.3	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	16/07/2019	ES1922383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.7-0.8	16/07/2019	666306	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
TP9 1.1-1.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_1.1-1.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_0.5-0.6	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_2.0-2.1	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_0.0-0.15	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_1.4-1.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Anlaytical Data
Project Number: 56262
Project Name: SI FSPS

	Chlorinated Alkanes																			Chlorinated Alkenes														
	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	BromoChloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	DichloroDifluoromethane	DichloroMethane	Pentachloroethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	1,3-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	cis-1,4-Dichloro-2-butene	TetraChloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	TriChloroethene	Vinyl Chloride
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5				0.5	0.5	0.5	0.5		0.5	0.5	0.5		0.5	0.5
NEPC 2013 EIL, EILs Aged Sediment (Site Specific)																																		
NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil																																		
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Residential - HSL A																																		
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																																		
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Coarse																																		
NEPM 2013 Soil HIL A																																		
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Sand 0 to <1m																																		

Field ID	Sampled Date	Lab Report Number																																		
TP1A_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1A_0.3-0.38	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.2-0.3	11/07/2019	665365	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP1B_0.2-0.3	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.4-0.5	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.6-0.7	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG01	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG02	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.05-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02B_0.1-0.2	11/07/2019	665365	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
QA01	16/07/2019	ES1922101	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<5	<5	<5	-	<0.5	<5	<0.5	<0.5	<0.5	<0.5	-	<1	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
QC01	11/07/2019	665365	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP2B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.6-0.65	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.15-0.2	11/07/2019	665365	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP3B_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A 0.4-0.5	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5A_0.14-0.23	11/07/2019	665365	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP5A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5B_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5B 0.3-0.4	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6A_0.05-0.2	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6B_0.1-0.2	11/07/2019	665759	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP6B 0.5-0.6	11/07/2019	669214																																		
TP6B_1.0-1.1	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07A_0.4-0.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 0.4-0.5	11/07/2019	669214																																		
TP7A_1.8-1.9	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 2.4-2.5	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_1.9-2.0	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B 2.1-2.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_2.1-2.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.6-0.8	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.2-0.3	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	16/07/2019	ES1922383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.7-0.8	16/07/2019	666306	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
TP9 1.1-1.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_1.1-1.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_0.5-0.6	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_2.0-2.1	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_0.0-0.15	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_1.4-1.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Anlaytical Data
Project Number: 56262
Project Name: SI FSPS

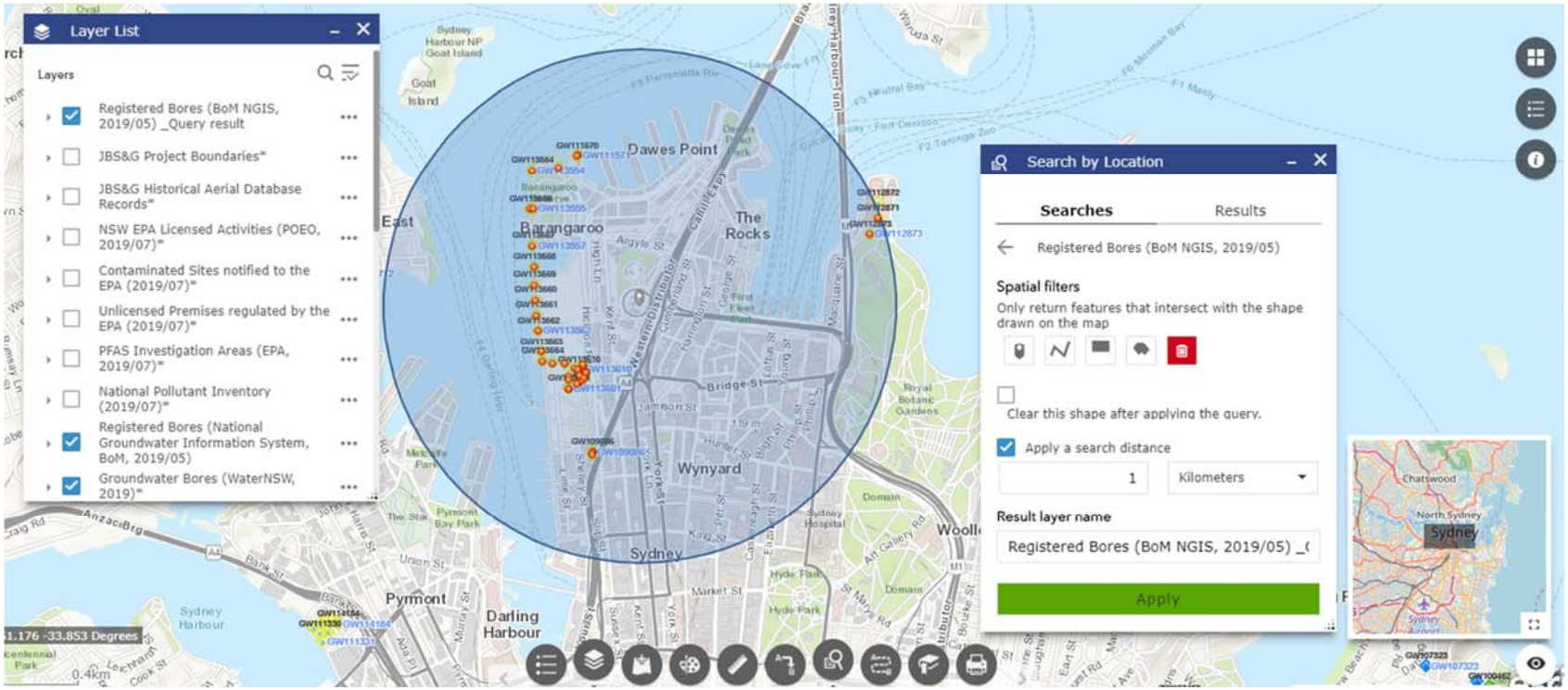
			Solvents	Polychlorinated Biphenyls								Monocyclic Aromatic Hydrocarbons										VOC	Miscellaneous Hydrocarbons							
			2-Propanone (Acetone)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	1,2,4-trimethyl benzene	1,3,5-trimethyl benzene	4-isopropyl toluene	Bromobenzene	Isopropylbenzene	n-butyl benzene	n-propyl benzene	sec-butyl benzene	Styrene	Tert-butyl benzene	Total MAH*	1,2-dibromoethane	2-Butanone (MEK)	2-Hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Bromomethane	Dibromomethane	Iodomethane	Vinyl Acetate
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	MG/KG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5		0.5	0.5				0.5		0.5	0.5	0.5		0.5	0.5	0.5	0.5	
NEPC 2013 EIL, EILs Aged Sediment (Site Specific)																														
NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil																														
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Residential - HSL A																														
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																														
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Coarse																														
NEPM 2013 Soil HIL A											1																			
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Sand 0 to <1m																														
Field ID	**Sampled Date**	**Lab Report Number**																												
TP1A_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1A_0.3-0.38	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.2-0.3	11/07/2019	665365	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP1B_0.2-0.3	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.4-0.5	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP1B_0.6-0.7	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG01	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01B_FRAG02	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.05-0.2	11/07/2019	665365	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02B_0.1-0.2	11/07/2019	665365	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
QA01	16/07/2019	ES1922101	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<5	<5	<5	<5	<0.5	<0.5	<5
QC01	11/07/2019	665365	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP2B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3A_0.6-0.65	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3B_0.15-0.2	11/07/2019	665365	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP3B_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.0-0.1	11/07/2019	665365	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4A 0.4-0.5	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	665365	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.0-0.1	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5A_0.14-0.23	11/07/2019	665365	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP5A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5B_0.1-0.2	11/07/2019	665365	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5B 0.3-0.4	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6A_0.05-0.2	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6B_0.1-0.2	11/07/2019	665759	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP6B 0.5-0.6	11/07/2019	669214																												
TP6B_1.0-1.1	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07A_0.4-0.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 0.4-0.5	11/07/2019	669214																												
TP7A_1.8-1.9	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7A 2.4-2.5	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_1.9-2.0	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B 2.1-2.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7B_2.1-2.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.6-0.8	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.2-0.3	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	16/07/2019	ES1922383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_0.7-0.8	16/07/2019	666306	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	<0.5	<0.5	-	-	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-
TP9 1.1-1.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9_1.1-1.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_0.5-0.6	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10_2.0-2.1	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_0.0-0.15	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11_1.4-1.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Anlaytical Data
Project Number: 56262
Project Name: SI FSPS

	Chlorinated Benzenes							Trihalomethanes				Misc. Industrial	EPA VIC - IWRG621					Asbestos				Asbestos										Organic Sulfur Compounds	Ionic Balance			Other		Moisture
	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Bromodichloromethane	Chloroform	Dibromochloromethane	Tribromomethane	Hexachlorobutadiene	Chlorinated Hydrocarbons EPAVic	Other Chlorinated Hydrocarbons EPAVic	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic	Polycylic Aromatic Hydrocarbons EPAVic	Organic Fibre	Sample weight (dry)	Asbestos Type	Synthetic Mineral Fibre	Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Mass ACM	Mass Asbestos in ACM	Mass FA	Mass Asbestos in FA	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Carbon disulfide	Cation Exchange Capacity	EC 1:5 soil:water	pH 1:5 soil:water	% Clay	% Moisture 103oC	Moisture Content
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g/kg	g	-	g/kg	g	%w/w	%w/w	g	g	g	g	g	g	g	mg/kg	meq/100g	µS/cm	ph Units	%	%	%
EQL			0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5		0.5	0.5	0.1	0.1																0.5	0.05	10	0.1	1	1	
NEPC 2013 EIL, EILs Aged Sediment (Site Specific)																																						
NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil																																						
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Residential - HSL A																							0.01															
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																								0.001													
NEPM 2013 Mgnt Limits - Residential, Parkland and Public Open Space, Coarse																																						
NEPM 2013 Soil HIL A							10																															
NEPM 2013 Soil HSL A & HSL B for Vapour Intrusion - Sand 0 to <1m																																						
Field ID	**Sampled Date**	**Lab Report Number**																																				
TP1A_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	517	0	0	0	0	0	0	0	0	-	-	-	-	-	3.3	-
TP1A_0.3-0.38	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	-
TP1B_0.2-0.3	11/07/2019	665365	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	437	0	0	0	0	0	0	0	<0.5	-	-	-	-	1.3	-
TP1B_0.2-0.3	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-
TP1B_0.4-0.5	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
TP1B_0.6-0.7	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	36	6.5	6.3	1.6	-
TP01B_FRAG01	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
TP01B_FRAG02	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
TP2A_0.05-0.2	11/07/2019	665365	-	-	-	-	<0.05	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	-
TP2A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	549	0	0	0	0	0	0	0	0	-	-	-	-	-	3	-
TP02B_0.1-0.2	11/07/2019	665365	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	<0.1	-	-	-	-	-	542	0	0	0	0	0	0	0	0	<0.5	-	-	-	-	8.5	-
QA01	16/07/2019	ES1922101	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	1010	0	643	1	0	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	7.3
QC01	16/07/2019	665365	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	<0.1	-	-	-	-	-	690	0	0	0	0	0	0	0	0	<0.5	-	-	-	-	7	-
TP2B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
TP3A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	552	0	0	0	0	0	0	0	0	-	-	-	-	-	6.5	-
TP3A_0.6-0.65	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	37	6.3	8.8	8.5	-
TP3B_0.15-0.2	11/07/2019	665365	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	410	0	0	0	0	0	0	0	<0.5	-	-	-	-	9.8	-
TP3B_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP4A_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-
TP4A_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	462	0	0	0	0	0	0	0	0	-	-	-	-	-	11	-
TP4A 0.4-0.5	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
TP4B_0.0-0.1	11/07/2019	665365	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	2.5	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-
TP4B_0.0-0.1	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP4B_0.2-0.3	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	481	0	0	0	0	0	0	0	0	-	-	-	-	-	11	-
TP4B 0.5-0.6	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2	-
TP5A_0.14-0.23	11/07/2019	665365	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	661	0	0	0	0	0	0	0	<0.5	-	-	-	-	6.2	-
TP5A_0.3-0.4	11/07/2019	665365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP5B_0.1-0.2	11/07/2019	665365	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	358	0	0	0	0	0	0	0	-	-	-	-	-	17	-
TP5B 0.3-0.4	11/07/2019	667580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP6A_0.05-0.2	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	549	0	0	0	0	0	0	0	0	-	-	-	-	-	6.2	-
TP6B_0.1-0.2	11/07/2019	665759	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	<0.1	-	-	-	-	-	534	0	0	0	0	0	0	0	0	<0.5	-	-	-	-	10	-
TP6B 0.5-0.6	11/07/2019	669214																																				
TP6B_1.0-1.1	11/07/2019	665759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	40	6	1	11	-
TP07A_0.4-0.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	738	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-
TP7A 0.4-0.5	11/07/2019	669214																																				
TP7A_1.8-1.9	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
TP7A 2.4-2.5	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8	-
TP7B_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	419	0	0	0	0	0	0	0	0	-	-	-	-	-	8.3	-
TP7B_1.9-2.0	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP7B 2.1-2.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
TP7B_2.1-2.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	35	7.8	23	13	-
TP8_0.0-0.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	443	0	0	0	0	0	0	0	0	-	-	-	-	-	11	-
TP8_0.6-0.8	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-
TP9_0.2-0.3	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	513	0	0	0	0	0	0	0	0	-	-	-	-	-	8.4	-
QA02	16/07/2019	ES1922383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4
QC02	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	-
TP9_0.7-0.8	16/07/2019	666306	-	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	18	-
TP9 1.1-1.2	16/07/2019	667579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-
TP9_1.1-1.2	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	14	7.3	20	14	-
TP10_0.5-0.6	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5	-
TP10_2.0-2.1	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	-
TP11_0.0-0.15	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.8	-
TP11_1.4-1.5	16/07/2019	666306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-

Appendix A Registered Groundwater Bore Records

Groundwater Bore Search Results



Appendix B Historical Aerial Photographs



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262

Client: School Infrastructure NSW

Version: Aerials	Date 5/08/2019
Drawn By: AV	Checked By: MS

Scale 1:2,500

0 30 60

metres

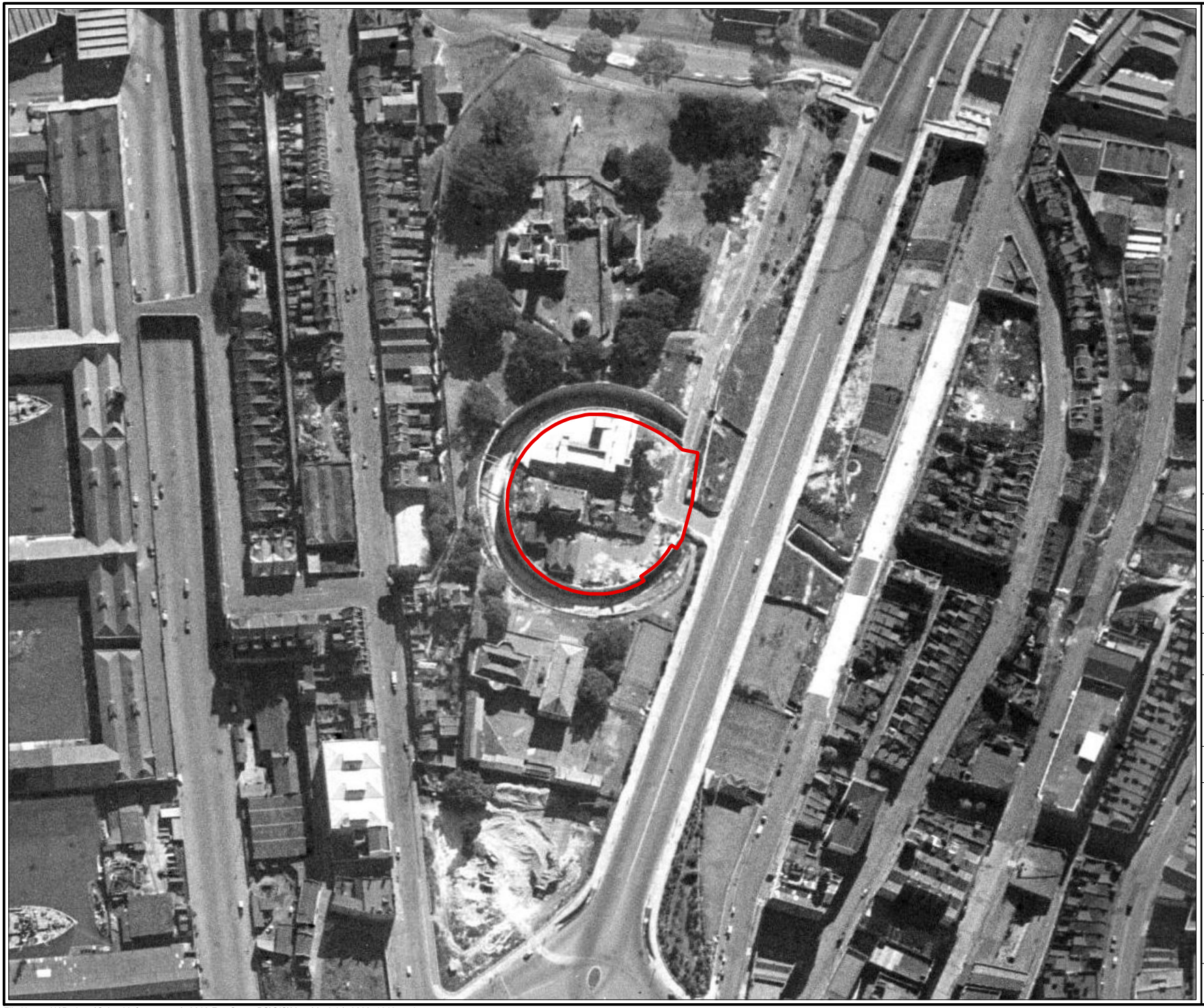
Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1930

FIGURE 1930

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_1930.mxd
Reference: Spatial Services, NSW



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 4/07/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

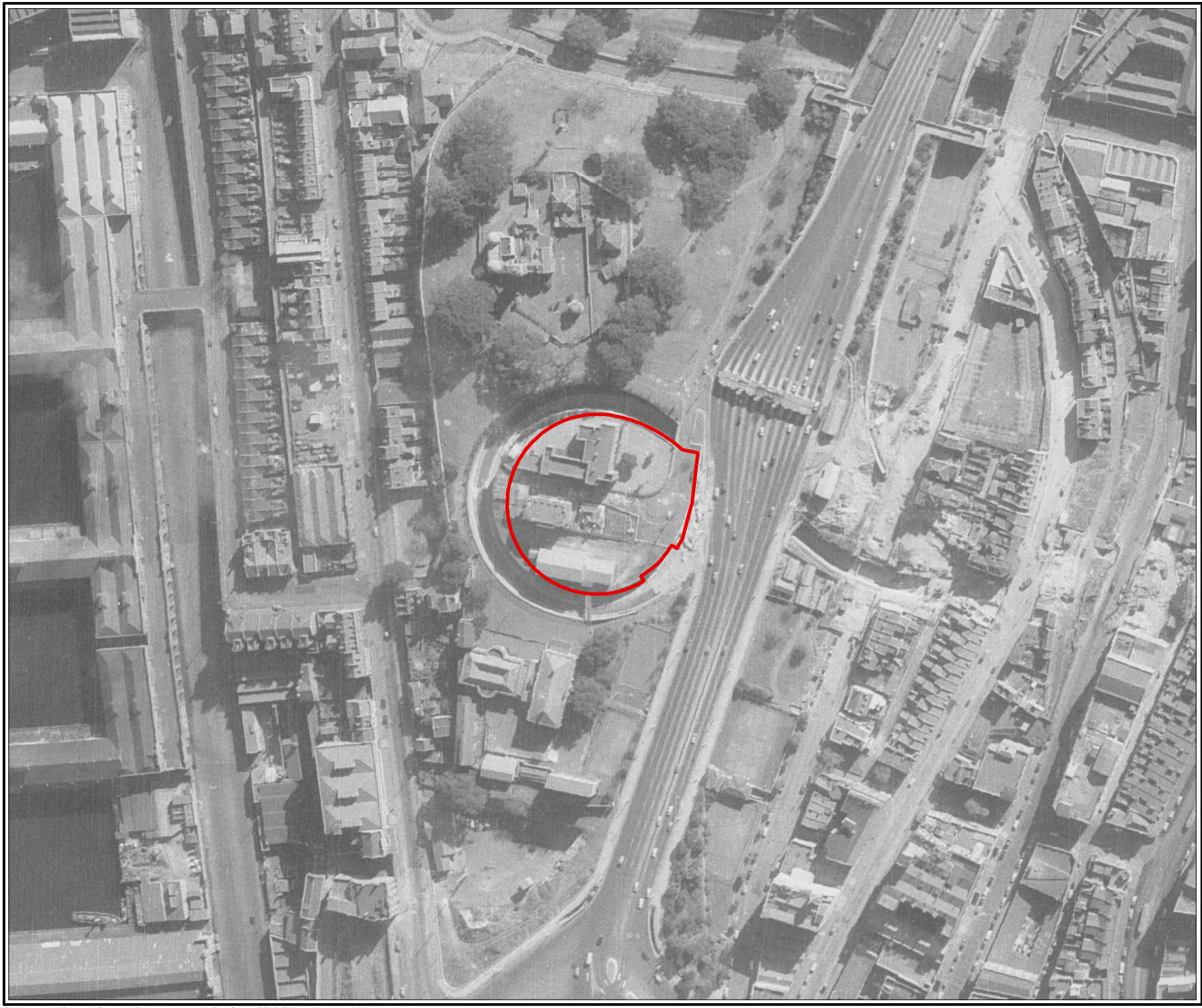
Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1943

FIGURE 1943

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_1943.mxd
Reference: Six Maps NSW



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 5/08/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1956

FIGURE 1956

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_1956.mxd
Reference: Spatial Services, NSW



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262

Client: School Infrastructure NSW

Version: Aerials	Date 5/08/2019
Drawn By: AV	Checked By: MS

Scale 1:2,500

0 30 60

metres

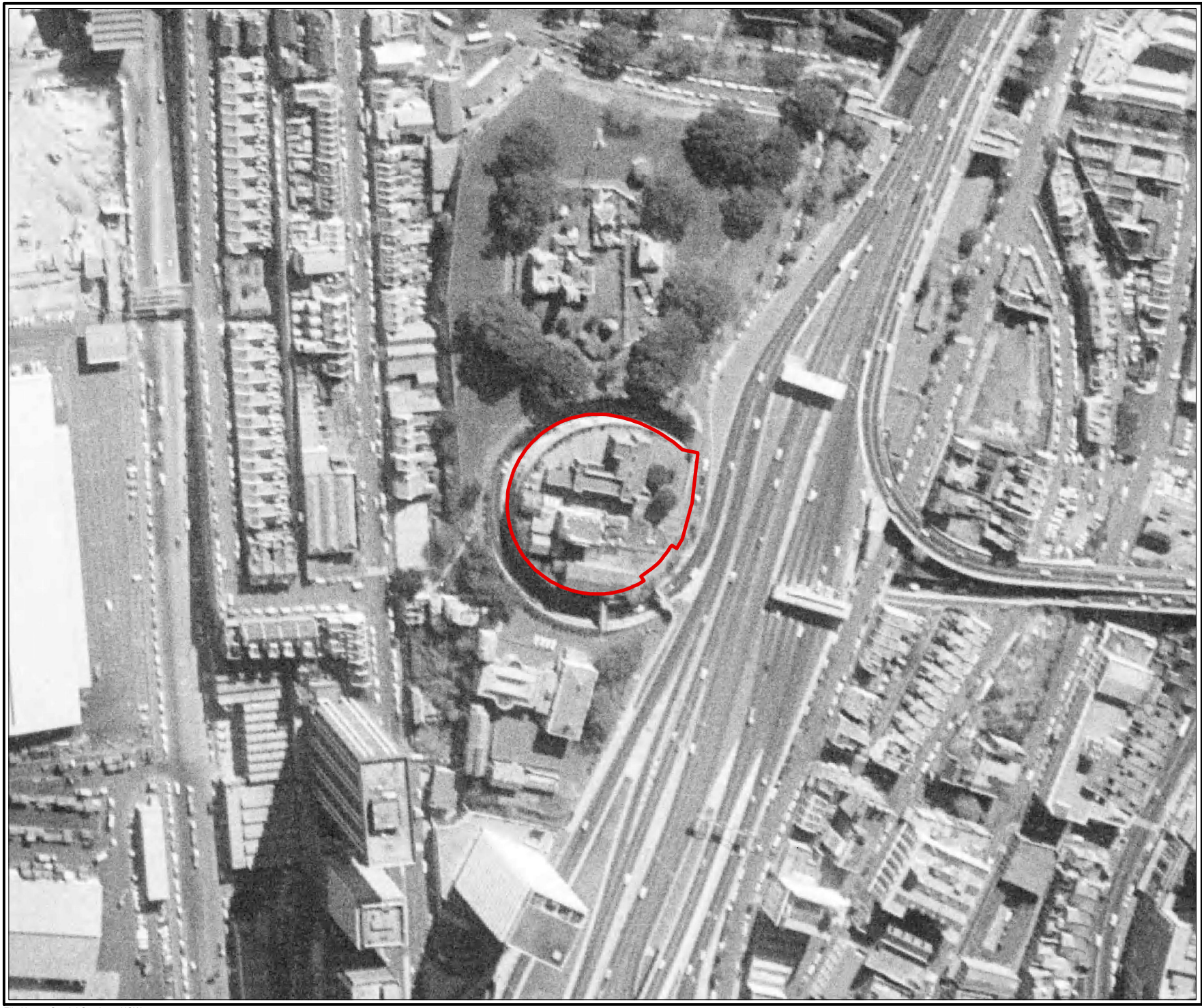
Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1965

FIGURE 1965

File Name: Spatial Services, NSW
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 5/08/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1975

FIGURE 1975

File Name: Spatial Services, NSW
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 4/07/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 1998

FIGURE 1998

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_1998.mxd
Reference: Spatial Services, NSW



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 4/07/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 2000

FIGURE 2000

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_2000.mxd
Reference: Gogle Earth Pro - Imagery 28-09-2000



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 4/07/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 2010

FIGURE 2010

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_2010.mxd
Reference: Nearmap - nearmap.com.au - Imagery 22-01-2010



Legend:

Approximate Site Boundary

JBS&G

Job No: 56262	
Client: School Infrastructure NSW	
Version: Aerials	Date 4/07/2019
Drawn By: AV	Checked By: MS
Scale 1:2,500	

0 30 60

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill
Millers Point, NSW

HISTORICAL AERIAL PHOTOGRAPH - 2019

FIGURE 2019

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\Aerials\56262_2019.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019

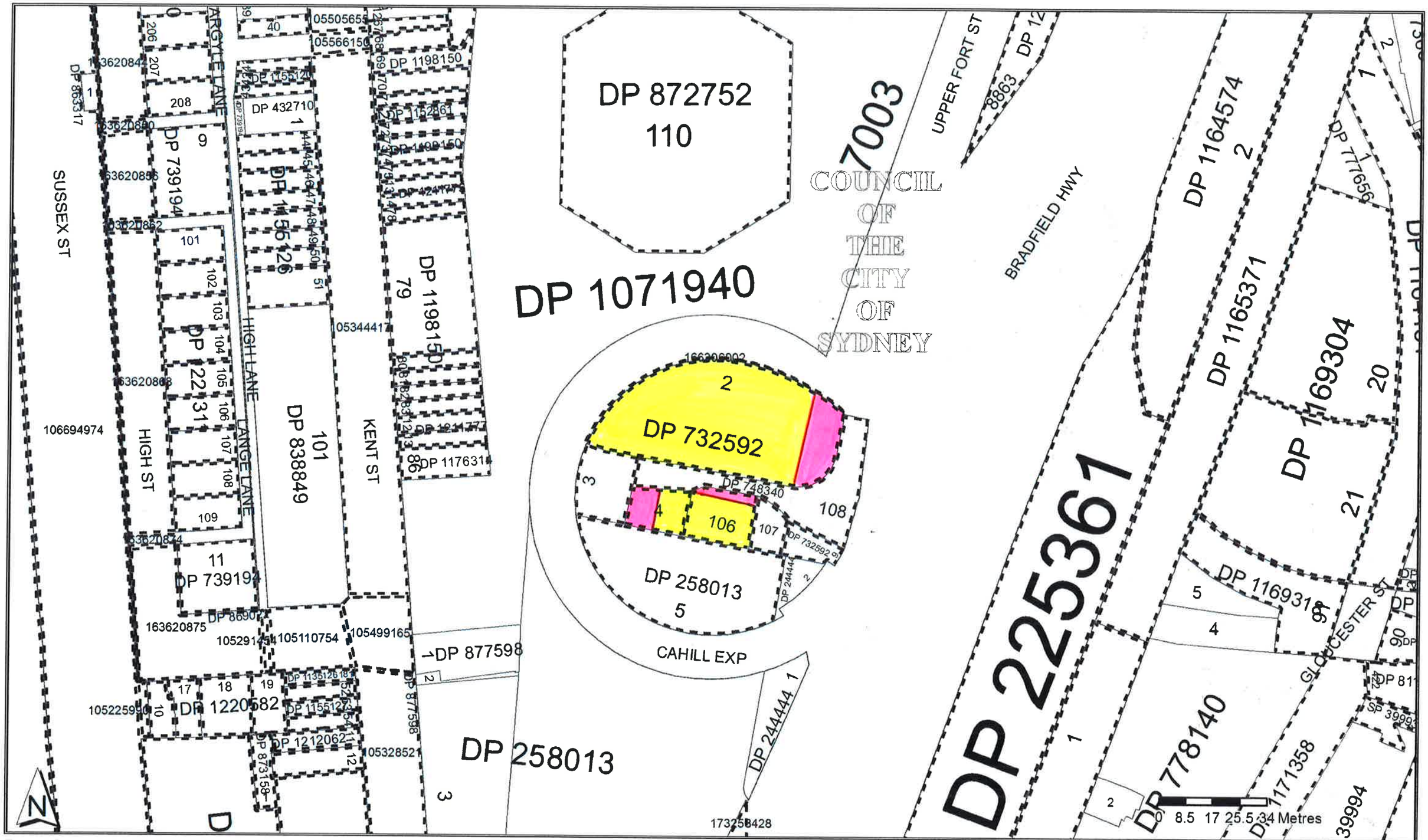
Appendix C Historical Title Records Information

LAND REGISTRY SERVICES

Cadastral Records Enquiry Report : Lot 2 DP 732592

Locality : MILLERS POINT
LGA : SYDNEY
Parish : ST PHILIP
County : CUMBERLAND

Ref : observatory



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This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

InfoTrack Your Searching Partner

Req:R680828 /Doc:CP 02489-3000 P /Rev:28-Nov-2012 /NSW LRS /Prt:19-Jul-2019 14:21 /Seq:1 of 1
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PLAN

OBSERVATORY PARK.

Parish of S. Philip County of Cumberland

City of Sydney.

being part of an area resumed 29th December 1900 under the Public Works Act 1900

Proposed to be placed under the control of the Municipal Council of Sydney

Boundaries of Observatory Park as Proclaimed 6th May 1887, vide C.34.2063.R

As vested in the Governor of N.S.W. Gazette 30th Jany 1900, vide Ms 1187Sy.R

Observatory Park as first measured with a view to placing same under the control of the Municipal Council of Sydney

Shewn by green edging - (Gr) -

Survey as first amended shewn by dark red edging (Ms 5.14091) - (R) -

Survey as further amended to include part of 35 perches dedicated for Observatory April 1884, and the land between Watson Road and Argyle St. shewn by red color

1767.2. Total Area 5 ac 3 r 14 p

5.3.14: Trustees: the City Council: vide Act No 27 of 1908

RED TINT

Total Area 5 ac 3 r 14 p

ARGYLE STREET

WATSON ROAD

Reserve for Police purposes

Ms 2040 Sy

SITE FOR Mechanics Institute

(Formerly part of Observatory Park)

Dedicated 16th January 1904

0a. 2r. 4¾p

Buildings

Buildings &c resumed

29th December 1900

Public Works under the

Ms 1187 Sy. R
C.34.2063 R

RED TINT

(1r. 5p)

Ms 1187 Sy. R
C.34.2063 R

RED TINT

Formerly dedicated

C.34.2063 R
S.406.858

FOR

OBSERVATORY

29th April 1884

1ac. 1r. 4p.

Now comprised in the area resumed 23rd December 1900, under the Public Works Act 1900.

For plan of areas to be leased to Commonwealth Government vide Ms 30875y Roll.

RED TINT

RED TINT

RED TINT

RED TINT

5ac 2r 9p
(including 13½p)

Entrance

Brick house

Kerb

Iron Railings

Stone Wall

Dwarf Existing Stone Wall

Cannot trace Alignment Plan

FORT STREET

Sec. 72

Sec. 65

UPPER

ESSEX ST.

Spike ft Ms 2479 Sy

Ø Proposed appropriation for cable duct Sydney City Council Pks 69.7186 LB 69.1741

Ø Grant Easement by Dept of Railways LB 11.685 10ft wide

Noted on C.34.2063.R, Ms 1187 Sy.R, S.318.558R, P.41.1978.R, S.62.907.R, S.97.907.R, S7.85.13.old R.

Checked and Charted 7 Aug 06

Examined 20-8-06

Plan Approved

Chief Draftsman 22nd Aug 1906

Brick Wall

Entrance

Dwarf Stone Wall

Iron Railings

STAIRS

"FOR" STREET

Model Public School

Dedicated 21st Sept. 1901

2r. 1r. 38p.

C.34.2063.R
P.41.1978

PEL TINT

Old Brick Wall

Entrance

Brick

Wall

Old Brick Wall

Dwarf Stone Wall

Iron Railings

Entrance

Kerb

Iron Railings

Dwarf Stone Wall

Existing

Stone Wall

Cannot trace Alignment Plan

Old Brick Wall

Brick Wall

Dwarf Stone Wall

Iron Railings

Entrance

Kerb

Iron Railings

Dwarf Existing

SCHEDULE THREE.

PART I.

Observatory Park.

All those two pieces or parcels of land, containing an aggregate area of 5 acres 3 roods 14 perches, situated at and near Flagstaff Hill, city of Sydney, parish of St. Philip, county of Cumberland.

Firstly, 5 acres 2 roods 9 perches, situated as aforesaid: Commencing on the western side of Upper Fort street at a point bearing south 52 degrees 25 minutes west and distant 1 chain 14 links from the intersection of the eastern side of that street with the southern side of Essex-street; and bounded thence by lines bearing north 74 degrees 39 minutes west 79$\frac{9}{10}$ links, north 89 degrees 23 minutes west 1 chain, south 82 degrees west 25$\frac{3}{10}$ links, and south 2 degrees 5 minutes west 67$\frac{8}{10}$ links, to the northern side of an old brick wall forming the northern boundary of the Fort-street Model Public School grounds; thence by that wall and another old brick wall forming the western boundary of the Fort-street Model Public School grounds before-mentioned, bearing north 87 degrees 31 minutes west 1 chain 99$\frac{3}{10}$ links, and south 4 degrees 47 minutes east 1 chain 67$\frac{5}{10}$ links, to a point in the easterly prolongation of the southern side of a dwarf stone wall; thence by that prolongation and the southern side of that wall bearing westerly to another dwarf stone wall on the eastern side of Kent-street; thence by the eastern side of that street bearing north 13 degrees 31 minutes west 2 chains 22$\frac{1}{10}$ links, to the southern side of a brick wall; thence by that brick wall and its prolongation easterly, in all bearing north 77 degrees 10 minutes east 1 chain 36$\frac{1}{10}$ links to the western side of another dwarf stone wall; thence by that wall bearing northerly, north-easterly, easterly, and south-easterly to the western side of Upper Fort street before mentioned; and thence by that street bearing southerly, to the point of commencement,—exclusive of an area of 1 acre 1 rood 4 perches, formerly dedicated for Observatory on the twenty-ninth day of April, one thousand eight hundred and eighty-four, which has been deducted from the total area, and shown upon a plan in the Department of Lands catalogued C. 34–2,063 Roll.

Secondly, 1 rood 5 perches, situated as aforesaid: Commencing at the westerly intersection of the southern side of Argyle-street with the northern side of Watson-road; and bounded thence on the south and south-east by the southern and south-eastern sides of the existing wall, situated on the northern and north-western side of Watson-road, bearing easterly and north-easterly to the southern side of Argyle-street before-mentioned; and thence on the north by the southern side of Argyle-street, bearing westerly, to the point of commencement:

Which said parcels of land are shown upon a plan in the Department of Lands, catalogued Ms. 2,489, Sy.

PART II.

Dawes Point Reserve.

County of Cumberland, parish of St. Phillip, city of Sydney, at Dawes Point. Area, 4 acres 1 rood 18$\frac{1}{2}$ perches: Commencing on the eastern side of George-street North, at a point bearing south 51 minutes east 3 chains 39$\frac{1}{2}$ links from the outer edge of the base course of the sea wall fronting Port Jackson, being a point in the northerly prolongation of the eastern side of George-street North, being also the north-western corner of an area of $\frac{7}{10}$ of a perch occupied as a cable hut site by the Commonwealth of Australia: and bounded thence by a line bearing north 89 degrees 5 minutes east 47$\frac{8}{10}$ links: thence by the concave side of an arc of 91 links radius curving to the right, the chord of which bears north 77 degrees 57 minutes east 88$\frac{8}{10}$ links; thence by lines bearing south 73 degrees 4 minutes east 1 chain 89$\frac{4}{10}$ links, north 23 degrees 4 minutes east 67 links, south 63 degrees 51 minutes east 40 links, north 23 degrees 15 minutes east 46$\frac{7}{10}$ links, north 4 degrees 3 minutes east 22$\frac{8}{10}$ links, north 23 degrees 39 minutes east 19$\frac{6}{10}$ links, south 67 degrees 16 minutes east 31 links, north 23 degrees 42 minutes east 48 links, north 67 degrees 40 minutes west 26$\frac{3}{10}$ links, north 21 degrees 12 minutes

east

Req:R680730 /Doc:CP 05505-3000 P /Rev:27-Nov-2012 /NSW LRS /Prt:19-Jul-2019 14:10 /Seq:1 of
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H.O 163

"Observatory Hill Lands"

Papers: Ms. 21. 3900.

PLAN OF ~~PORTION A~~

~~Being~~ part of Observatory Park

County of Cumberland Parish of St. Philip

— CITY OF SYDNEY —

LAND DISTRICT OF METROPOLITAN LAND BOARD DISTRICT OF SYDNEY

~~Resumed Area No.~~ ~~Pastoral Holding~~ Eastern Division.

Applied for under the Section of the Crown Lands Consolidation Act 1913 by

Measured for Site for proposed New Commonwealth Weather Bureau

~~Por. No.~~ ~~C.P. No.~~ Within an area resumed on the 29th Dec. 1900 under the Public Works Act, 1900.

~~Por. No.~~ ~~C.L. No.~~ Within "Observatory Park" placed under control of the Municipal Council of Sydney by Act No 27 of 1908.

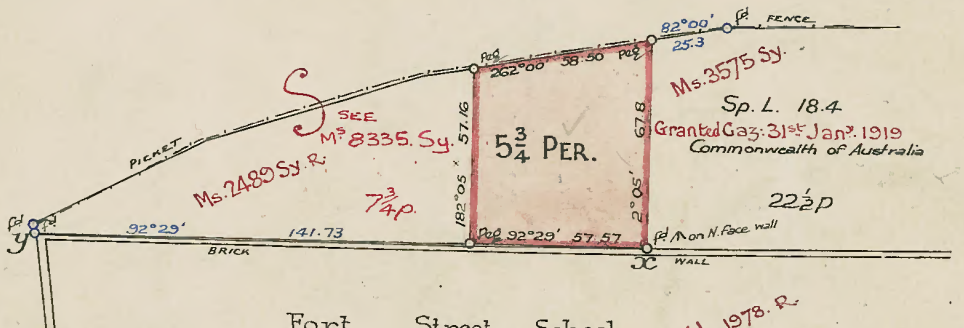
Occupation authorised vide Observatory Park Weather Bureau Site Act, No 8 of 1925.

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

Ms. 2489 Sy. R.

Observatory Park

Act No 27 1908



Fort Street School P.41. 1978. R.

Dedicated 21st Sepr 1901

2a. 1r. 38p.

On reloc" from "Observatory Park"
Cancel and amend as Ms 2489 Sy R

Azimuth taken from XY

Field Book Vol. 8183 Folio 22.

Reference to Corners

Corner	Bearing	From	Links	No on Free

5505: 3000

Value of Improvements

Reference to Traverse

Line	Bearing	Distance

I hereby certify that I in person made and on the 19th April 1921 completed the survey represented on this plan on which are written the bearings and lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors and the practice of the Department of Lands.

A. L. Proust Licensed Surveyor

Transmitted to the District Surveyor with my letter of 27th April '21 No 50

Voucher No. ✓ Passed Staff 20. A.D.S. 16/6/21

Calculation Book No. C. 69 Folio

Checked and Charted Arthur J. D.S. 16/6/21

Examined and Plan approved C. Edwards 19

Scale 60 ~~Chains~~ Links to an Inch.

Ms. 5505 Sy.

17th June 1921

20/6/21.

Lithographed at the Office of the Surveyor General, Sydney, N.S.W., 1920.

Req:R680734 /Doc:CP 08286-3000 P /Rev:26-Nov-2012 /NSW LRS /Prt:19-Jul-2019 14:11 /Seq:1 of 1
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P.W.D.

SYDNEY HARBOUR BRIDGE

15

PLAN

Shewing land proposed to be resumed for southern approach

City of Sydney.

Parish of St Philip – County of Cumberland

Scale: 2 chains to an inch

F.B. 701

RESUMED BY NOTIFICATION IN GAZETTE
OF 9th Febry '32 No. FOL.

08286 by

ARGYLE

1927 (No 6 Desc.)

1927

Obervatory

Park (Northern Part)

WATSON Rd

103·5ft (abt) 90° 2nd Land

98ft (abt) 2nd Land

251 ft

ST

NORTH

ST

9th Dec. Gazette (No 5 Desc.)

9th Dec. Gazette

Kerb

25 Land

Observatory

Park

FORT ST as 1603 19162 Kerb

Bridge by Harbour

Bridge by Harbour

STREET

LITTLE

ESSEX

PRINCES ST

YORK ST

UPPER

Sydney Harbour Resumed for

Resumed for Sydney Harbour

Girls High School

ESSEX ST

Resumed

Charted in Head Office Maps
Examined

Ivel Wilson 20.1.32
Officer-in-Charge of Surveys

8286.3000

08286 by

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

P.W.D.

City of Sydney.

SYDNEY HARBOUR BRIDGE

PLAN

shewing land proposed to be dedicated as a Public Highway.

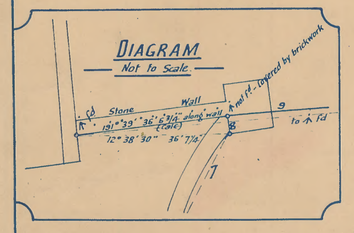
Parish of St Philip — County of Cumberland

Scale: 40 feet to an inch

F.B.k 724.

Vested in the Municipal Council of Sydney Gaz 29.3.35

31





Observatory Park

WATSON RD

pt Observatory (Northern Part) Park

ARGYLE ST

Fort Street Girls High School

Brick wall 1.1'6" thick

Stone Wall 1'8" thick not fd. Covered by brickwork

See Diagram

UPPER Resumed for Sydney Harbour FORT Bridge by Gazette of 19th February 1932

1A 0R 22¼P

Resumed for Sydney Harbour Bridge by Gazette of 9th December 1927

(No 5 Description)

LITTLE ESSEX ST

Retaining Wall to ground level 1'1½" thick

Fence

Rail

Brick Nos 5 Wall to ground level 1'3¾" thick

Bridge Entrance (Concrete) Stairs

BRADFIELD HIGHWAY

Reference to Boundaries

Line	Bearing	Distance
1	290° 30'	20' 1¾"
2	20° 30'	0' 4⅝"
3	290° 30'	1' 6⅛"
4	298° 33'	8' 11¼"
5	303° 22' 30"	1' 6½"
6	213° 22' 30"	0' 4⅝"
7	Ch 311° 56' 16° 0⅝" R 55'	
8	278° 54'	0' 7½"
9	14° 02'	24' 10¾"

Azimuth taken from M.R.C. Traverse (Trig Mer.)

Date of Survey 17th-23rd June 1932.

I certify that the survey represented in this plan was made by me and is correct.

R. E. Doyle

Surveyor registered under the Surveyors Act, 1929

PLAN MICROFILMED

NO ADDITIONS OR AMENDMENTS TO TO BE MADE

8856-3000

Ms. 8856 Syd

Req:R680731 /Doc:CP 08856-3000 P /Rev:01-Dec-2012 /NSW LRS /Prt:19-Jul-2019 14:11 /Seq:1 of 1
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P.W.D.

City of Sydney.

SYDNEY HARBOUR BRIDGE

PLAN

shewing land proposed to be dedicated as a Public Highway.

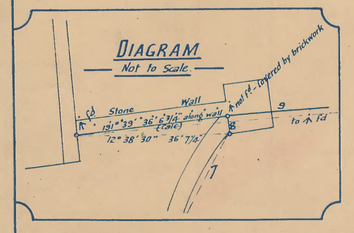
Parish of St Philip — County of Cumberland

Scale: 40 feet to an inch

F.B.k 724.

Vested in the Municipal Council of Sydney Gaz 29.3.35

31





Observatory Park

WATSON RD

pt Observatory (Northern Part) Park

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Retaining Wall to ground level 1'1½" thick

Fence

Rail

Brick Nos 5 Wall to ground level 1'3¾" thick

Bridge Entrance (Concrete) Stairs

BRADFIELD HIGHWAY

Reference to Boundaries

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6	213° 22' 30"	0' 4⅝"
7	Ch 311° 56' 16° 0⅝" R 55'	
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Azimuth taken from M.R.C. Traverse (Trig Mer.)

Date of Survey 17th-23rd June 1932.

I certify that the survey represented in this plan was made by me and is correct.

R. E. Doyle

Surveyor registered under the Surveyors Act, 1929

PLAN MICROFILMED

NO ADDITIONS OR AMENDMENTS TO TO BE MADE

8856-3000

Ms. 8856 Syd

Req:R680731 /Doc:CP 08856-3000 P /Rev:01-Dec-2012 /NSW LRS /Prt:19-Jul-2019 14:11 /Seq:1 of 1
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PWD

City of Sydney.

DEPARTMENT OF EDUCATION

PLAN

Shewing land proposed to be acquired for Fort St. Primary School

Parish of St Philip — County of Cumberland

Scale: 40 ft. to an inch.

F B 1438 & Plan Cat No 2184

Gaz 12 6 42

Red colour: 2r. 13p.
Resumption folio 1887 Gaz. 12 June 1942
(under Public Work Act 1912) for public school
at Fort St vested in Minister of Public Instruction
for purpose of Public Instruction Act 1880

Act No 27. 1908

PLAN MICROFILMED
NO ADDITIONS OR AMENDMENTS TO BE MADE

OBSERVATORY

Low Level Road 40 feet wide

PARK

2r. 13p.

LANDS

Road 12 feet wide

FORT STREET (A.OR. 22.1.4P Vested in Municipal Council of Sydney for Public Road Gaz. 29.3.1935. B Gaz. 29.3.1935.)

UPPER FORT STREET

HIGHWAY

BRADFIELD

WEATHER BUREAU

See Ms 5505 Sy. 5¾ p.

See Ms 3575 Sy. 22½ p.

FORT STREET HIGH SCHOOL GIRLS

11½ p. Vested in Municipal Council of Sydney for Public Road Gaz. 29.3.1935

Variable width

Boundary

Not marked

R.M. Drillhole & wing on top of wall

Bolt at Angle

Dwarf Stone Wall

Brick Wall

Concrete

Kerb

Asphalt

Ms 8911 Sy.

Ms 11191 Sy.

NOTES.

① Azimuth taken from line A-B

② Surrounding Roads under construction at date of survey.

Subscribed and declared before me at Sydney
this 16th day of February 1942.
R.E. Doyle J.P.
Justice of the Peace

I Thomas Douglas William Asprey of Sydney, a surveyor registered under the Surveyors Act, 1929 do hereby solemnly and sincerely declare that the survey represented in this plan has been made in accordance with the Survey Practice Regulations 1933, by me, was completed on 21st October, 1941 is correct, and the Reference Marks have been placed as shown hereon.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Oaths Act 1900

Thomas Asprey

11191-3000

10385

Ms 11191 Sy.

Req:R680625 /Doc:CP 11191-3000 P /Rev:01-Dec-2012 /NSW LRS /Prt:19-Jul-2019 13:56 /Seq:1 of 1
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Req:R680639 /Doc:CP 19162-1603 P /Rev:29-Nov-2012 /NSW LRS /Prt:19-Jul-2019 13:59 /Seq:1 of 1
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See Also. Ms 8856. Sy. R.

Rds. 33:261.

PLAN

of lands to be resumed under the Public Roads Act 1902 in connection with the proposed road of access to Sydney Harbour Bridge from Watson Road along the east side of Observatory Park.

City of Sydney

County of Cumberland — Parish of St Philip

Metropolitan Land District – ~~Metropolitan~~ Land Board District of Sydney.

Width of Proposed Road Variable

Scale-40 feet to an inch

Land proposed to be resumed shewn by red color

Subject lands vested in Municipal Council of Sydney under the provisions of Sydney Harbour Bridge (Administration) Act, 1932. vide Gazette of 29th March 1935. No further action necessary.

Declination Variation 9°30'

Trig. Meridian

ARGYLE STREET

Ms 2489 Sy. R.

Observatory Park (Northern Part)

WATSON Rd

BRIDGE ENTRANCE STAIRS (Concrete)

1927

1932

19th February Width

31st December

Area to be resumed - 1A. OR. 22¼P.

Park

1884

29th April

Gazette

of STREET

HIGHWAY

Ms 8266 Sy.

Ms 7056 Sy.

Darling Hbr Resumption

Dedicated

Observatory

Harbour FORT

Bridge

Sydney

for Variable

FORMER SITE OF LITTLE ESSEX STREET

Ms 8286 Sy.

Ms 8911 Sy

Ms 3575 Sy.

Commonwealth of Australia Sp. Ls. 18-4

22½ P.

See Diagram

Fort Street Girls High School Dedicated 21st Septr 1901

UPPER Resumed

BRADFIELD Resumed

REFERENCE to TRAVERSE

Line	Bearing	Distance
1	290°30'	20' 1¾"
2	20°30'	0' 4⅝"
3	290°30'	1' 6¼"
4	288°33'	8' 11¼"
5	303°22'30"	1' 6¼"
6	213°22'30"	0' 4⅝"
7	Ch 311°56'46"0" Arc 16°0⅝"-R 55'	
8	278°54'	0' 7½"
9	14°02'	24' 10¾"

DIAGRAM

—Not to Scale—

Azimuth taken from M.R.C. Traverse (Trig. Meridian)
Field Book 7648 F.W.D. Pages 10-11
Survey executed in accordance with regulations of 1914 in June 1932.

Transmitted to the District Surveyor with my letter of —— *N. E. Cloyd*
Regd. Surveyor

Voucher No — *Passed* —
Calculation Book No F.A. Folio 60-63
Checked and Charted V. Gosling. 24-5-1933.
Examined M. Wade 29. 5. 33.
Plan approved 30th June 1933

Standard Tracing Prepared

Officer-in-charge Roads Branch

Cat. No R. 19162. 1603.

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/7/2019 2:25PM

FOLIO: 2/732592

First Title(s): OLD SYSTEM
Prior Title(s): GZ 12061942 FOL 1887

Recorded	Number	Type of Instrument	C.T. Issue
13/5/1986	DP732592	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
22/6/2011	CA159588	CONVERSION ACTION	FOLIO CREATED EDITION 1

*** END OF SEARCH ***

observatory PRINTED ON 19/7/2019

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Received: 19/07/2019 14:25:41

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 2/732592

SEARCH DATE	TIME	EDITION NO	DATE
19/7/2019	2:22 PM	1	22/6/2011

LAND

LOT 2 IN DEPOSITED PLAN 732592
AT SYDNEY
LOCAL GOVERNMENT AREA SYDNEY
PARISH OF ST PHILIP COUNTY OF CUMBERLAND
TITLE DIAGRAM DP732592

FIRST SCHEDULE

MINISTER FOR EDUCATION (CA159588)

SECOND SCHEDULE (1 NOTIFICATION)

1 LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

observatory PRINTED ON 19/7/2019

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Received: 19/07/2019 14:22:06

OBSERVATORY PARK WEATHER BUREAU SITE ACT.

Act No. 8, 1923.

An Act to authorise the Commonwealth of Australia to occupy and use a certain portion of Observatory Park for the purpose of the erection and maintenance thereon of a Weather Bureau; to amend the Sydney Corporation (Amendment) Act, 1908; and for purposes connected therewith. [Assented to, 4th October, 1923.] George V, No. 8.

BE it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

1. This Act may be cited as the "Observatory Park Weather Bureau Site Act, 1923." Short title.

2.

George V, No. 8.

Part of Observatory Park to be used by Commonwealth.

2. Notwithstanding anything contained in the Sydney Corporation (Amendment) Act, 1908, or any other Act or law to the contrary, the Commonwealth of Australia is hereby authorised, subject to the provisions of this Act, to occupy, enclose, and use that portion of the Observatory Park particularly described in the Schedule to this Act.

Land to be used for weather bureau.

3. The land so described may be occupied and used for the purposes of the erection and maintenance thereon by the Commonwealth of Australia of a weather bureau, and for purposes incidental thereto, and the land may be occupied and used by the Commonwealth of Australia for so long only as the land is used for such purposes, and no longer.

4. This Act shall not confer any right, power, or authority on the Commonwealth of Australia to sell, mortgage, alienate, charge, or otherwise deal with the land or any part thereof, or to part with the possession of the land or any part thereof, or to use the land or any part thereof for any purpose other than those mentioned in the last preceding section.

SCHEDULE.

ALL that parcel of land containing an area of $5\frac{3}{4}$ perches or thereabouts, situated at Observatory Hill, City of Sydney, parish of St. Phillip, county of Cumberland: Commencing at the south-western corner of an area of $22\frac{1}{2}$ perches held by the Commonwealth of Australia as special lease No. 1874, and shown upon a plan in the Department of Lands catalogued Ms. 3575 Sy.; and bounded thence by the western boundary of that area bearing 2 degrees 5 minutes $67\frac{8}{100}$ links to its north-western corner; thence by lines bearing 262 degrees $58\frac{5}{100}$ links, 182 degrees 5 minutes $57\frac{15}{100}$ links, and 92 degrees 29 minutes $57\frac{57}{100}$ links to the point of commencement, as shown upon a plan in the Department of Lands catalogued Ms. 5505 Sy., and being part of Observatory Park placed under control of the Municipal Council of Sydney by Act No. 27 of 1908.

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/7/2019 5:19PM

FOLIO: 4/732592

First Title(s): THIS FOLIO
Prior Title(s): CROWN LAND

Recorded	Number	Type of Instrument	C.T. Issue
13/5/1986	DP732592	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
11/7/2008	CA132534	CONVERSION ACTION	FOLIO CREATED CT NOT ISSUED
14/7/2008	AE84854	DEPARTMENTAL DEALING	
30/7/2008	AE117645	DEPARTMENTAL DEALING	
30/5/2017	AM428714	REQUEST	EDITION 1

*** END OF SEARCH ***

observatory PRINTED ON 19/7/2019

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Received: 19/07/2019 17:19:09

Req:R682343 /Doc:DL AM428714 /Rev:02-Jun-2017 /NSW LRS /Pgs:ALL /Prt:19-Jul-2019 17:19 /Seq:1 of 2
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Form: 11R
Release: 4·2

REQUEST

New South Wales
Real Property Act 1900

AM428714U

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the I by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

All Statutory Declarations and evidence that are lodged in support of land dealings will be treated as publicly accessible and will be disclosed to persons upon request.

(A) **STAMP DUTY** — If applicable. Office of State Revenue use only

(B) **TORRENS TITLE** — Folio Identifiers 106/748340, 107/748340 and 4/732592

(C) **REGISTERED DEALING**

Number	Torrens Title

(D) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODE
813E	Lea Armstrong, Crown Solicitor DX 19 SYDNEY Tel: 9224-5079 LLPN:123589U Reference: 201500903 CEA D2017/221990	R

(E) **APPLICANT** — MINISTER FOR EDUCATION

(F) **NATURE OF REQUEST** — ISSUE OF CERTIFICATE OF TITLE due to compulsory acquisition pursuant to s. 125 of the Education Act 1990

(G) **TEXT OF REQUEST**

The Applicant requests the Registrar General to issue Certificates of Title Folio Identifier 106/748340, Folio Identifier 107/748340 and Folio Identifier 4/732592 in the name of the Minister for Education. A copy of the Notice of Compulsory Acquisition of land published in the Government Gazette dated 13 April 2017, Folio 1326 is annexed and marked "A".

DATE 5/5/2017

(H) I certify that I am an eligible witness and that an authorised officer of the applicant signed this dealing in my presence. [See note* below].

Signature of witness:

Name of witness: Paul Weeks

Address of witness: Level 4, 35 Bridge St Sydney NSW 2000

Certified correct for the purposes of the Real Property Act 1900 by the authorised officer named below.

Signature of authorised officer:

Authorised officer's name: ANTHONY PERRAM

Authority of officer: Delegate

Signing on behalf of: Minister for Education

(I) *This section is to be completed where a notice of sale is required and the relevant data has been forwarded through eNOS.*

The applicant certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. _____ Full name: _____ Signature: _____

* *s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.*

Req:R682343 /Doc:DL AM428714 /Rev:02-Jun-2017 /NSW LRS /Pgs:ALL /Prt:19-Jul-2019 17:19 /Seq:2 of 2
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"A"

COMPANION ANIMALS REGULATION 2008

Order

Organisations approved by the Chief Executive, Local Government, under clause 3(1) of the Companion Animals Regulation 2008

Pursuant to clause 3(1) of the *Companion Animals Regulation 2008*, the organisation listed in Schedule 1 is hereby approved, subject to the conditions contained in Schedule 2.

SCHEDULE 1

Name of organisation	Address of organisation	Name of contact officer for organisation
Cats New South Wales Incorporated	PO Box 56 Hill Top NSW 2575	Jennifer Weekes

SCHEDULE 2

1. That the members of the body comply with The Guidelines for Approval as a Recognised Breeder Body under Clause 3(1) of the *Companion Animals Regulation 2008.*

Date: 4 April 2017

Tim Hurst
Acting Chief Executive, Local Government

CO-OPERATIVES NATIONAL LAW (NSW)

Notice is hereby given that the Co-operative listed below will be deregistered when three months have passed after 25 January 2017, being the date of lodgement of the final return by the Liquidator under section 509 the *Corporations Act 2001*, as applied by section 453 of the *Co-operatives National Law (NSW).*

CO-OPERATIVE DETAILS

Co-operative: The Artarmon Bowling & Recreation Club Co-operative Ltd

Co-operative Number: NSWC00463

Dated this 7th day of April 2017 at Bathurst

C Gowland
Delegate of the Registrar
Director, Registry Services

EDUCATION ACT 1990

LAND ACQUISITION (JUST TERMS COMPENSATION) ACT 1991

NOTICE OF COMPULSORY ACQUISITION OF LAND FOR PUBLIC SCHOOL

The Minister for Education, with the approval of His Excellency the Governor, declares by his delegate that the land described in the schedule below is acquired by compulsory process under the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991* for the purposes of *Education Act 1990.*

(DATED at Sydney, this 1st day of March 2017).

Anthony Perrau
Delegate of the Minister for Education

SCHEDULE

All the piece or parcel of land situated in the Local Government Area of Sydney, Parish of St Philip, County of Cumberland and in the State of New South Wales being Lot 4 and 9 in Deposited Plan 732592 and Lots 106,107 and 108 in DP748340.

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 4/732592

SEARCH DATE	TIME	EDITION NO	DATE
19/7/2019	2:22 PM	1	30/5/2017

LAND

LOT 4 IN DEPOSITED PLAN 732592
AT MILLERS POINT
LOCAL GOVERNMENT AREA SYDNEY
PARISH OF ST PHILIP COUNTY OF CUMBERLAND
TITLE DIAGRAM DP732592

FIRST SCHEDULE

MINISTER FOR EDUCATION (R AM428714)

SECOND SCHEDULE (1 NOTIFICATION)

1 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
19/7/2019 5:30PM

FOLIO: 106/748340

First Title(s): THIS FOLIO
Prior Title(s): CROWN LAND

Recorded	Number	Type of Instrument	C.T. Issue
19/8/1987	DP748340	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
12/5/2009	CA144907	CONVERSION ACTION	FOLIO CREATED CT NOT ISSUED
30/5/2017	AM428714	REQUEST	EDITION 1

*** END OF SEARCH ***

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Received: 19/07/2019 17:30:41

Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 106/748340

SEARCH DATE	TIME	EDITION NO	DATE
19/7/2019	2:22 PM	1	30/5/2017

LAND

LOT 106 IN DEPOSITED PLAN 748340
AT MILLERS POINT
LOCAL GOVERNMENT AREA SYDNEY
PARISH OF ST PHILIP COUNTY OF CUMBERLAND
TITLE DIAGRAM DP748340

FIRST SCHEDULE

MINISTER FOR EDUCATION (R AM428714)

SECOND SCHEDULE (1 NOTIFICATION)

1 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

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Appendix D Section 10.7 Planning Certificates

City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

Telephone +61 2 9265 9333
Fax +61 2 9265 9222
council@cityofsydney.nsw.gov.au

GPO Box 1591 Sydney NSW 2001
cityofsydney.nsw.gov.au

JBSG AUSTRALIA PTY LTD
Level 1 50 Margaret St
SYDNEY NSW 2000

PLANNING CERTIFICATE

Under Section 10.7 of the Environmental Planning and Assessment Act, 1979

Applicant:	JBSG AUSTRALIA PTY LTD
Your reference:	
Address of property:	1005 Upper Fort Street , MILLERS POINT NSW 2000
Owner:	DEPARTMENT of EDUCATION AND TRAINING
Description of land:	Lot 2 DP 732592, Lot 9 DP 732592, Lot 108 DP 748340, Lot 3 DP 732592
Certificate No.:	2019303318
Certificate Date:	2/07/19
Receipt No:	0139110
Fee:	$80.00
Paid:	2/07/19

Title information and description of land are provided from data supplied by the Valuer General and shown where available.

Issuing Officer
per **Monica Barone**
Chief Executive Officer

CERTIFICATE ENQUIRIES:
Ph: 9265 9333
Fax: 9265 9415

Sydney2030/Green/Global/Connected

PLANNING CERTIFICATE UNDER SECTION 10.7 (2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION, 2000, CLAUSES (1) - (2).

DEVELOPMENT CONTROLS

The following information must be read in conjunction with and subject to all other provisions of the environmental planning instruments specified in this certificate.

ZONING

Zone B8 Metropolitan Centre (Sydney Local Environmental Plan 2012)

1 Objectives of zone
• To recognise and provide for the pre-eminent role of business, office, retail, entertainment and tourist premises in Australia's participation in the global economy.
• To provide opportunities for an intensity of land uses commensurate with Sydney's global status.
• To permit a diversity of compatible land uses characteristic of Sydney's global status and that serve the workforce, visitors and wider community.
• To encourage the use of alternatives to private motor vehicles such as public transport, walking or cycling.
• To promote uses with active street frontages on main streets and on streets in which buildings are used primarily (at street level) for the purposes of retail premises.

2 Permitted without consent
Nil

3 Permitted with consent
Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Information and education facilities; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Tourist and visitor accommodation; Any other development not specified in item 2 or 4

4 Prohibited
Nil

PROPOSED ZONING

This property is not affected by a draft zone.

LOCAL PLANNING CONTROLS

Sydney Local Environmental Plan 2012 (as amended) – Published 14 December 2012 NSW Legislation Website.

Sydney Development Control Plan 2012 (as amended) - (commenced 14.12.2012)

Planning Proposal: Amendment of Sydney Local Environmental Plan 2012 – Millers Point

The Planning Proposal seeks to amend the planning controls for Millers Point Heritage Conservation Area under Sydney Local Environmental Plan 2012.

Planning Proposal Serviced Apartments: Amendment of the following Local Environmental Plans.

- **Sydney Local Environmental Plan 2012;**
- **Sydney Local Environmental Plan 2005;**
- **Sydney Local Environmental Plan (Green Square Town Centre) 2013; and**
- **Sydney Local Environmental Plan (Green Square Town Centre Stage 2) 2013.**

This Planning Proposal explains the intent of, and justification for the proposed amendment to ensure State Environmental Planning Policy No. 65 (SEPP 65) and the Apartment Design Guide provisions apply to serviced apartments.

HERITAGE

Conservation Area
(Sydney Local Environmental Plan 2012)
This property has been identified as land within a Heritage Conservation Area.

Item of Environmental Heritage
(Sydney Local Environmental Plan 2012)
This property has been listed as an Item of Environmental Heritage

State Heritage Register (Amendment to Heritage Act, 1977, gazetted 2/4/99)
This property is identified as being of state significance and has been entered on the State Heritage Register. Unless the proposed work is exempt under the Heritage Office Standard Exemptions or is covered by site specific exemptions, an applicant must seek an integrated development approval from Council and as such the proposal will be referred to the Heritage Council. If major changes are proposed the Heritage Council may require the applicant to prepare a conservation management plan in accordance with the NSW Heritage Manual Guidelines. For further information please contact the Heritage Office (02) 9873 8500 or alternatively online www.heritage.nsw.gov.au .

STATE PLANNING INSTRUMENTS

Full copies of State Environmental Planning Policies are available online at www.planning.nsw.gov.au.

State Environmental Planning Policy No. 19 – Bushland in Urban Areas
This is a policy to protect and preserve bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. This policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 32 – Urban Consolidation
This policy implements the principles of urban consolidation, including the orderly, economic use and development of land. The policy enables urban land which is no longer required for the purpose for which it is currently zoned or used to be redeveloped for multi-unit housing and related development.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
This policy aims to amend the definitions of hazardous and offensive industries; to render ineffective any environmental planning instruments not defining hazardous or offensive as per this policy; to control development of hazardous and offensive industries.

State Environmental Planning Policy No. 55 – Remediation of Land
This policy provides planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals. To assist councils and developers, the Department, in conjunction with the Environment Protection Authority, has prepared Managing Land Contamination: Planning Guidelines.

State Environmental Planning Policy No. 64 – Advertising and Signage
This policy aims to ensure that signage (including advertising):
Is compatible with the desired amenity and visual character of an area, and
- Provides effective communications in suitable locations, and
- Is of a high quality design and finish.

To this end the policy regulates signage (but not content) under Part 4 of the Act and provides limited time consents for the display of certain advertisements. The policy does not apply to signage that is exempt development under an environmental planning instrument. It does apply to all signage that can be displayed with or without consent and is visible from any public place or reserve, except as provided by the policy.

This policy should be read in conjunction with the Sydney Local Environmental Plan 2005, the City of Sydney Signage and Advertising Structures Development Control Plan 2005 and State Environmental Planning Policy No. 60 where these apply.

State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Buildings
This policy aims to improve the design quality of flats of three or more storeys with four or more self contained dwellings. The policy sets out a series of design principles for local

councils to consider when assessing development proposals for residential flat development. The policy also creates a role for an independent design review panel and requires the involvement of a qualified designer in the design and approval process.

State Environmental Planning Policy No.70 – Affordable Housing (Revised Schemes) (Gazetted 31.05.02)
The policy identifies that there is a need for affordable housing in the City of Sydney, describes the kinds of households for which affordable housing may be provided and makes a requirement with respect to the imposition of conditions relating to the provision of affordable housing (provided other requirements under the Act are met).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
This Policy does not apply to land described in Schedule 1 (Environmentally sensitive land), or land that is zoned for industrial purposes, or land to which an interim heritage order made under the *Heritage Act 1997* by the Minister administering that Act applies, or land to which a listing on the State Heritage Register kept under the *Heritage Act 1997* applies.

The Policy aims to encourage the provision of housing (including residential care facilities) that will increase the supply and diversity of residences that meet the needs of seniors or people with a disability, and make efficient use of existing infrastructure and services, and be of good design.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
Aims to ensure consistency in the implementation of the BASIX scheme throughout the State. This Policy achieves its aim by overriding provisions of other environmental planning instruments and development control plans that would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.

State Environmental Planning Policy (State Significant Precincts) 2005
This Policy aims to identify development of economic, social or environmental significance to the State or regions of the State so as to provide a consistent and comprehensive assessment and decision making process for that development.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State.

State Environmental Planning Policy (Temporary Structures and Places of Public Entertainment) 2007
This Policy aims to ensure that suitable provision is made for ensuring the safety of persons using temporary structures or places of public entertainment.

State Environmental Planning Policy (Infrastructure) 2007
This Policy aims to facilitate the effective delivery of infrastructure across the state.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Repeal of Concurrence and Referral Provisions) 2008
This Policy is an 'amending instrument' that removes or modifies referral and concurrence clauses within local environmental plans (LEPs), regional environmental plans (REPs) and State environmental planning policies (SEPPs).

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
This Policy Streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of

development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy (Affordable Rental Housing) 2009
Establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people. NOTE: Does not apply to land at Green Square or at Ultimo Pyrmont, or on southern employment land.

State Environmental Planning Policy (Urban Renewal) 2010
The aims of this Policy are as follows:
(a) to establish the process for assessing and identifying sites as urban renewal precincts,
(b) to facilitate the orderly and economic development and redevelopment of sites in and around urban renewal precincts,
(c) to facilitate delivery of the objectives of any applicable government State, regional or metropolitan strategies connected with the renewal of urban areas that are accessible by public transport.

State Environmental Planning Policy (State and Regional Development) 2011
The aims of this Policy are as follows:
(a) to identify development that is State significant development,
(b) to identify development that is State significant infrastructure and critical State significant infrastructure,
(c) to confer functions on joint regional planning panels to determine development applications.

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017
The aims of this Policy are:
(a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and
(b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
The aim of this Policy is to facilitate the effective delivery of educational establishments and early education and care facilities across the state.

State Environmental Planning Policy (Coastal Management) 2018
The aim of this Policy is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including the management objectives for each coastal management area, by:
(a) managing development in the coastal zone and protecting the environmental assets of the coast, and
(b) establishing a framework for land use planning to guide decision-making in the coastal zone, and
(c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005
This plan applies to land within the Sydney Harbour Catchment, as shown edged heavy black on the Sydney Harbour Catchment Map, being part of the Sydney Region declared by order published in Gazette No 38 of 7 April 1989 at page 1841.

This plan has the following aims with respect to the Sydney Harbour Catchment:
to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected and maintained: as outstanding natural asset, and as a public asset of national and heritage significance, for existing and future generations; to ensure a healthy, sustainable environment on land and water; to achieve a high quality urban environment; to ensure a prosperous working waterfront and an effective transport corridor, to encourage a culturally rich and vibrant place for people; to ensure accessibility to and along Sydney Harbour and its foreshores; to ensure the protection, maintenance and rehabilitation of watercourses, wetlands, riparian lands, remnant vegetation and ecological connectivity, to provide a consolidated, simplified and updated legislative framework for future planning.

OTHER MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - E. P. & A. REGULATION, 2000. CLAUSES (2A) - (10)

(2A) Zoning and land use under *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*

This SEPP does not apply to the land.

(3) Complying Development

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development 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*.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4),1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Note: All Exempt and Complying Development Codes: Council does not have sufficient information to ascertain the extent of a land based exclusion on a property. Despite any statement preventing the carrying out of complying development in the Codes listed below, complying development may still be carried out providing the development is not on the land affected by the exclusion and meets the requirements and standards of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

General Housing Code & Commercial and Industrial (New Buildings and Additions) Code

Complying development **may not** be carried out on the land under the General Housing Code & the Commercial and Industrial (New Buildings and Additions) Code if because of the provisions of clause 1.17A, 1.18(1)(c3) & 1.19 (Land-based requirements for exempt and complying development) any of the following statements are **YES**

▪ Clause 1.19(5)d. Land that is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997. (Applies only to the Commercial and Industrial (New Buildings and Additions) Code.	NO
▪ Clause 1.17A(d). Has been identified as a property that comprises, or on which there is, an item that is listed on the State Heritage Register under the *Heritage Act 1977* or that is subject to an interim heritage order under the *Heritage Act 1977*.	**YES**
▪ Clause 1.17A(d) & 1.18(1)(c3). Has been identified as a property that comprises, or on which there is, a heritage item or draft heritage item.	**YES**
▪ Clause 1.17A(c). Has been identified as being within a wilderness area (identified under the *Wilderness Act 1987*.	**NO**
▪ Clause 1.17A(e) & 1.19(1)e or 1.19(5)f. Has been identified as land that is within an environmentally sensitive area or by an environmental planning instrument as being within a buffer area, a river front area, an ecologically sensitive area, environmentally sensitive land or a protected area	**NO**
▪ Clause 1.19(1)a.or 1.19(5)a Has been identified as being within a heritage conservation area or a draft heritage conservation area.	**YES**
▪ Clause 1.19(1)b or 1.19(5)b. Has been identified as being land that is reserved for a public purpose in an environmental planning instrument.	**NO**
▪ Clause 1.19(1)c or 1.19(5)c. Has been identified as being on an Acid Sulfate Soils Map as being Class 1 or Class 2.	**NO**
▪ Clause 1.19(1)d or 1.19(5)e. Has been identified as land that is subject to a biobanking agreement under part 7A of the threatened Species Conservation Act 1995 or a property vegetation plan under the Native Vegetation Act 2003.	**NO**
▪ Clause 1.19(1)f or 1.19(5)g. Has been identified by an environmental planning instrument, a development control plan or a policy adopted by the Council as being or affected by a coastline hazard, a coastal hazard or a coastal erosion hazard.	**NO**
▪ Clause 1.19(1)g or 1.19(5)h. Has been identified as being land in a foreshore area.	**NO**
▪ Clause 1.19(1)h. Has been identified as land that is in the 25 ANEF contour or a higher ANEF contour. (Applies only to the General Housing Code)	**NO**
▪ Clause 1.19(1)j or 1.19(5)i. Has been identified as unsewered land within a drinking water catchment.	**NO**
▪ Clause 1.19(1)i. Has been identified as land that is declared to be a special area under the Sydney Water Catchment Management Act 1998.	**NO**

Housing Alterations Code
Complying development under the Housing Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Commercial and Industrial Alterations Code
Complying development under the Commercial and Industrial Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Subdivisions Code
Complying development under the Subdivisions Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3)applies

Rural Housing Code
The Rural Housing Code does not apply to this Local Government Area.

General Development Code
Complying development under the General Development Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Demolition Code
Complying development under the Demolition Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Low Rise Medium Density Housing Code

This Code has been deferred until 1 July 2019.

(4B) Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council : The owner (or any previous owner) of the land has not consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

(5) Mine Subsidence District

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of the mine subsidence compensation act, 1961.

(6) Road Widening and/or Road Realignment affected by (a) Division 2 of Part 3 of the Roads act 1993 or (c) any resolution of council or other authority.

This land **is not** affected by road widening and/or road realignment under section 25 of the Roads Act, 1993 and/or resolution of Council or any other authority.

(6) Road Widening and/or Road Realignment Affected by (b) any environmental planning instrument.

This land **is not** affected by any road widening or road realignment under any planning instrument.

(7) Council and other public authorities policies on hazard risk restrictions:

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

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

(7A) Flood related development controls information.

The development on this land or part of this land is subject to flood related development controls refer to Clause 7.15 of Sydney Local Environment Plan 2012 and Section 3.7 of Sydney Development Control Plan 2012.

(8) Land reserved for acquisition

No environmental planning instrument, or proposed environmental planning instrument applying to the land, provides for the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

(9) Contribution plans

The following Contributions Plans apply to properties within the City of Sydney local government area. Contributions plans marked **YES** may apply to this property:

▪ Central Sydney Development Contributions Plan 2013 – in operation 9th July 2013	**YES**
▪ City of Sydney Development Contributions Plan 2015 – in operation 1st July 2016	**NO**
▪ Redfern Waterloo Authority Contributions Plan 2006 – in operation 16th May 2007 ▪ Redfern Waterloo Authority Affordable Housing Contributions Plan – in operation 16th May 2007	**NO**

(9A) Biodiversity certified land

The land has not been certified as biodiversity certified land.

(10) Biodiversity Conservation Act 2016

Not Applicable.

(10A) Native vegetation clearing set asides

Not Applicable.

(11) Bush fire prone land

The land has not been identified as Bush fire prone land.

(12) Property vegetation plans

Not Applicable.

(13) Orders under Trees (Disputes Between Neighbours) Act 2006

Council has not been notified of an order which as been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land.

(14) Directions under Part 3A

Not Applicable.

(15) Site compatibility certificates and conditions for seniors housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (seniors housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any condition of consent to a development application granted after 11 October 2007 required by State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

(16) Site compatibility certificates for infrastructure, schools or TAFE establishments

The land to which the certificate relates is not subject to a valid site compatibility certificate (infrastructure), of which Council is aware, in respect of proposed development on the land.

(17) Site compatibility certificates and conditions for affordable rental housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (affordable rental housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

(18) Paper subdivision information

Not Applicable.

(19) Site verification certificates

The land to which the certificate relates is not subject to a valid site verification certificate of which Council is aware.

(20) Loose-fill asbestos insulation

Not Applicable

(21) Affected building notices and building product rectification orders

(1)The land to which the certificate relates is not subject to any affected building notice of which Council is aware.

(2) (a) The land to which the certificate relates is not subject to any building product rectification order of which Council is aware and has not been fully complied with.

(b) The land to which the certificate relates is not subject to any notice of intention to make a building product rectification order of which Council is aware and is outstanding.

(3) In this clause:
affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.
building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

Note. The following matters are prescribed by section 59 (2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) The land to which the certificate relates **is not** declared to be **significantly contaminated land** within the meaning of that act as at the date when the certificate is issued.

(b) The land to which the certificate relates **is not** subject to a **management order** within the meaning of that act as at the date when the certificate is issued.

(c) The land to which the certificate relates **is not** the subject of an **approved voluntary management proposal** within the meaning of that act at the date the certificate is issued.

(d) The land to which the certificate relates **is not** the subject of an **ongoing maintenance order** within the meaning of that act as at the date when the certificate is issued.

(e) As at the date when the certificate is issued, Council **has not** identified that a **site audit statement** within the meaning of that act has been received in respect of the land the subject of the certificate.

PLANNING CERTIFICATE SECTION 10.7 (2) INFORMATION:
Information provided in accordance with planning certificate section 10.7 (2) has been taken from council's records and advice from other authorities but council disclaims all liability for any omission or inaccuracy in the information. Specific inquiry should be made where doubt exists.

PLANNING CERTIFICATE UNDER SECTION 10.7 (5) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

PLANNING CERTIFICATE SECTION 10.7 (5) ADVICE is current as at 12:00 noon two working days prior to the date of issue of this certificate. The following matters have been considered & details provided where information exists: easements in favour of council; parking permit scheme; heritage floor space restrictions; low-rental residential building; foreshore building line; tree preservation order.

Contaminated Land Potential:
Council records do not have sufficient information about the uses (including previous uses) of the land which is the subject of this section 10.7 certificate to confirm that the land has not been used for a purpose which would be likely to have contaminated the land. Parties should make their own enquiries as to whether the land may be contaminated.

Hazard Risk Restriction:
Some City of Sydney Local Environmental Plans incorporate Acid Sulfate soil maps. Development on the land identified in those maps should have regard to the acid sulfate soil clause within the relevant Local Environmental Plan.

Construction Noise and View Loss Advice:
Intending purchasers are advised that the subject property may be affected by construction noise and loss or diminution of views as a result of surrounding development.

Outstanding Notice & Order information
In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order relating to Fire Safety (being an Order or Notice of Intention to issue an Order under Part 2 of Schedule 5 of the Environmental Planning and Assessment Act, 1979). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order (being an Order or Notice of Intention to issue an Order of a type other than relating to fire safety). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

Neighbourhood Parking Policy
The City of Sydney co-ordinates a Resident Permit Parking Scheme and a Visitor Permit Parking scheme. This property may be restricted from participating in either scheme. Eligibility may change after the date of this certificate, as parking supply and other traffic demands change. For more information contact Council's call centre on 9265 9333.

ADVICE FROM OTHER BODIES

Sydney Ports Corporation Advice

Some land in the City of Sydney located in the vicinity of the White Bay, Glebe Island and Darling Harbour ports may be affected by noise from port operations.

Advice provided in accordance with planning certificate section 10.7 (5) is supplied in good faith. Council accepts no liability for the validity of the advice given. (see section 10.7 (6) of the Environmental Planning and Assessment Act, 1979).

For information regarding outstanding notices and orders a CERTIFICATE FOR OUTSTANDING NOTICES OF INTENTION AND/OR AN ORDER UNDER SECTION 735A OF THE LOCAL GOVERNMENT ACT, 1993 AND SECTION 121ZP OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 may be applied for at Sydney City Council.

Planning certificate section 10.7 (2), local planning controls are available are available online at www.cityofsydney.nsw.gov.au

General Enquiries:
Telephone: 02 9265 9333

Town Hall House
Level 2
Town Hall House
456 Kent Street
Sydney
8am – 6pm Monday - Friday

State planning controls are available online at www.legislation.nsw.gov.au

Where planning certificate section 10.7 (5) matters are supplied, complete details are available by writing to:
Chief Executive Officer
City of Sydney
G.P.O. Box 1591
Sydney NSW 2000

End of Document

City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

Telephone +61 2 9265 9333
Fax +61 2 9265 9222
council@cityofsydney.nsw.gov.au

GPO Box 1591 Sydney NSW 2001
cityofsydney.nsw.gov.au

JBSG AUSTRALIA PTY LTD
Level 1 50 Margaret St
SYDNEY NSW 2000

PLANNING CERTIFICATE

Under Section 10.7 of the Environmental Planning and Assessment Act, 1979

Applicant:	JBSG AUSTRALIA PTY LTD
Your reference:	
Address of property:	9A Upper Fort Street , MILLERS POINT NSW 2000
Owner:	MINISTER FOR EDUCATION
Description of land:	Lot 106 DP 748340
Certificate No.:	2019303319
Certificate Date:	2/07/19
Receipt No:	0139110
Fee:	$80.00
Paid:	2/07/19

Title information and description of land are provided from data supplied by the Valuer General and shown where available.

Issuing Officer
per **Monica Barone**
Chief Executive Officer

CERTIFICATE ENQUIRIES:
Ph: 9265 9333
Fax: 9265 9415

Sydney2030/Green/Global/Connected

PLANNING CERTIFICATE UNDER SECTION 10.7 (2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION, 2000, CLAUSES (1) - (2).

DEVELOPMENT CONTROLS

The following information must be read in conjunction with and subject to all other provisions of the environmental planning instruments specified in this certificate.

ZONING

Zone B8 Metropolitan Centre (Sydney Local Environmental Plan 2012)

1 Objectives of zone
• To recognise and provide for the pre-eminent role of business, office, retail, entertainment and tourist premises in Australia's participation in the global economy.
• To provide opportunities for an intensity of land uses commensurate with Sydney's global status.
• To permit a diversity of compatible land uses characteristic of Sydney's global status and that serve the workforce, visitors and wider community.
• To encourage the use of alternatives to private motor vehicles such as public transport, walking or cycling.
• To promote uses with active street frontages on main streets and on streets in which buildings are used primarily (at street level) for the purposes of retail premises.

2 Permitted without consent
Nil

3 Permitted with consent
Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Information and education facilities; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Tourist and visitor accommodation; Any other development not specified in item 2 or 4

4 Prohibited
Nil

PROPOSED ZONING

This property is not affected by a draft zone.

LOCAL PLANNING CONTROLS

Sydney Local Environmental Plan 2012 (as amended) – Published 14 December 2012 NSW Legislation Website.

Sydney Development Control Plan 2012 (as amended) - (commenced 14.12.2012)

Planning Proposal: Amendment of Sydney Local Environmental Plan 2012 – Millers Point

The Planning Proposal seeks to amend the planning controls for Millers Point Heritage Conservation Area under Sydney Local Environmental Plan 2012.

Planning Proposal Serviced Apartments: Amendment of the following Local Environmental Plans.

- **Sydney Local Environmental Plan 2012;**
- **Sydney Local Environmental Plan 2005;**
- **Sydney Local Environmental Plan (Green Square Town Centre) 2013; and**
- **Sydney Local Environmental Plan (Green Square Town Centre Stage 2) 2013.**

This Planning Proposal explains the intent of, and justification for the proposed amendment to ensure State Environmental Planning Policy No. 65 (SEPP 65) and the Apartment Design Guide provisions apply to serviced apartments.

HERITAGE

Conservation Area
(Sydney Local Environmental Plan 2012)
This property has been identified as land within a Heritage Conservation Area.

Item of Environmental Heritage
(Sydney Local Environmental Plan 2012)
This property has been listed as an Item of Environmental Heritage

State Heritage Register (Amendment to Heritage Act, 1977, gazetted 2/4/99)
This property is identified as being of state significance and has been entered on the State Heritage Register. Unless the proposed work is exempt under the Heritage Office Standard Exemptions or is covered by site specific exemptions, an applicant must seek an integrated development approval from Council and as such the proposal will be referred to the Heritage Council. If major changes are proposed the Heritage Council may require the applicant to prepare a conservation management plan in accordance with the NSW Heritage Manual Guidelines. For further information please contact the Heritage Office (02) 9873 8500 or alternatively online www.heritage.nsw.gov.au .

STATE PLANNING INSTRUMENTS

Full copies of State Environmental Planning Policies are available online at www.planning.nsw.gov.au.

State Environmental Planning Policy No. 19 – Bushland in Urban Areas
This is a policy to protect and preserve bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. This policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 32 – Urban Consolidation
This policy implements the principles of urban consolidation, including the orderly, economic use and development of land. The policy enables urban land which is no longer required for the purpose for which it is currently zoned or used to be redeveloped for multi-unit housing and related development.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
This policy aims to amend the definitions of hazardous and offensive industries; to render ineffective any environmental planning instruments not defining hazardous or offensive as per this policy; to control development of hazardous and offensive industries.

State Environmental Planning Policy No. 55 – Remediation of Land
This policy provides planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals. To assist councils and developers, the Department, in conjunction with the Environment Protection Authority, has prepared Managing Land Contamination: Planning Guidelines.

State Environmental Planning Policy No. 64 – Advertising and Signage
This policy aims to ensure that signage (including advertising):
Is compatible with the desired amenity and visual character of an area, and
- Provides effective communications in suitable locations, and
- Is of a high quality design and finish.

To this end the policy regulates signage (but not content) under Part 4 of the Act and provides limited time consents for the display of certain advertisements. The policy does not apply to signage that is exempt development under an environmental planning instrument. It does apply to all signage that can be displayed with or without consent and is visible from any public place or reserve, except as provided by the policy.

This policy should be read in conjunction with the Sydney Local Environmental Plan 2005, the City of Sydney Signage and Advertising Structures Development Control Plan 2005 and State Environmental Planning Policy No. 60 where these apply.

State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Buildings
This policy aims to improve the design quality of flats of three or more storeys with four or more self contained dwellings. The policy sets out a series of design principles for local

councils to consider when assessing development proposals for residential flat development. The policy also creates a role for an independent design review panel and requires the involvement of a qualified designer in the design and approval process.

State Environmental Planning Policy No.70 – Affordable Housing (Revised Schemes) (Gazetted 31.05.02)
The policy identifies that there is a need for affordable housing in the City of Sydney, describes the kinds of households for which affordable housing may be provided and makes a requirement with respect to the imposition of conditions relating to the provision of affordable housing (provided other requirements under the Act are met).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
This Policy does not apply to land described in Schedule 1 (Environmentally sensitive land), or land that is zoned for industrial purposes, or land to which an interim heritage order made under the *Heritage Act 1997* by the Minister administering that Act applies, or land to which a listing on the State Heritage Register kept under the *Heritage Act 1997* applies.

The Policy aims to encourage the provision of housing (including residential care facilities) that will increase the supply and diversity of residences that meet the needs of seniors or people with a disability, and make efficient use of existing infrastructure and services, and be of good design.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
Aims to ensure consistency in the implementation of the BASIX scheme throughout the State. This Policy achieves its aim by overriding provisions of other environmental planning instruments and development control plans that would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.

State Environmental Planning Policy (State Significant Precincts) 2005
This Policy aims to identify development of economic, social or environmental significance to the State or regions of the State so as to provide a consistent and comprehensive assessment and decision making process for that development.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State.

State Environmental Planning Policy (Temporary Structures and Places of Public Entertainment) 2007
This Policy aims to ensure that suitable provision is made for ensuring the safety of persons using temporary structures or places of public entertainment.

State Environmental Planning Policy (Infrastructure) 2007
This Policy aims to facilitate the effective delivery of infrastructure across the state.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Repeal of Concurrence and Referral Provisions) 2008
This Policy is an 'amending instrument' that removes or modifies referral and concurrence clauses within local environmental plans (LEPs), regional environmental plans (REPs) and State environmental planning policies (SEPPs).

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
This Policy Streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of

development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy (Affordable Rental Housing) 2009
Establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people. NOTE: Does not apply to land at Green Square or at Ultimo Pyrmont, or on southern employment land.

State Environmental Planning Policy (Urban Renewal) 2010
The aims of this Policy are as follows:
(a) to establish the process for assessing and identifying sites as urban renewal precincts,
(b) to facilitate the orderly and economic development and redevelopment of sites in and around urban renewal precincts,
(c) to facilitate delivery of the objectives of any applicable government State, regional or metropolitan strategies connected with the renewal of urban areas that are accessible by public transport.

State Environmental Planning Policy (State and Regional Development) 2011
The aims of this Policy are as follows:
(a) to identify development that is State significant development,
(b) to identify development that is State significant infrastructure and critical State significant infrastructure,
(c) to confer functions on joint regional planning panels to determine development applications.

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017
The aims of this Policy are:
(a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and
(b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
The aim of this Policy is to facilitate the effective delivery of educational establishments and early education and care facilities across the state.

State Environmental Planning Policy (Coastal Management) 2018
The aim of this Policy is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including the management objectives for each coastal management area, by:
(a) managing development in the coastal zone and protecting the environmental assets of the coast, and
(b) establishing a framework for land use planning to guide decision-making in the coastal zone, and
(c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005
This plan applies to land within the Sydney Harbour Catchment, as shown edged heavy black on the Sydney Harbour Catchment Map, being part of the Sydney Region declared by order published in Gazette No 38 of 7 April 1989 at page 1841.

This plan has the following aims with respect to the Sydney Harbour Catchment:
to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected and maintained: as outstanding natural asset, and as a public asset of national and heritage significance, for existing and future generations; to ensure a healthy, sustainable environment on land and water; to achieve a high quality urban environment; to ensure a prosperous working waterfront and an effective transport corridor, to encourage a culturally rich and vibrant place for people; to ensure accessibility to and along Sydney Harbour and its foreshores; to ensure the protection, maintenance and rehabilitation of watercourses, wetlands, riparian lands, remnant vegetation and ecological connectivity, to provide a consolidated, simplified and updated legislative framework for future planning.

OTHER MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - E. P. & A. REGULATION, 2000. CLAUSES (2A) - (10)

(2A) Zoning and land use under *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*

This SEPP does not apply to the land.

(3) Complying Development

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development 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*.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4),1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Note: All Exempt and Complying Development Codes: Council does not have sufficient information to ascertain the extent of a land based exclusion on a property. Despite any statement preventing the carrying out of complying development in the Codes listed below, complying development may still be carried out providing the development is not on the land affected by the exclusion and meets the requirements and standards of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

General Housing Code & Commercial and Industrial (New Buildings and Additions) Code

Complying development **may not** be carried out on the land under the General Housing Code & the Commercial and Industrial (New Buildings and Additions) Code if because of the provisions of clause 1.17A, 1.18(1)(c3) & 1.19 (Land-based requirements for exempt and complying development) any of the following statements are **YES**

▪ Clause 1.19(5)d. Land that is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997. (Applies only to the Commercial and Industrial (New Buildings and Additions) Code.	NO
▪ Clause 1.17A(d). Has been identified as a property that comprises, or on which there is, an item that is listed on the State Heritage Register under the *Heritage Act 1977* or that is subject to an interim heritage order under the *Heritage Act 1977*.	**YES**
▪ Clause 1.17A(d) & 1.18(1)(c3). Has been identified as a property that comprises, or on which there is, a heritage item or draft heritage item.	**YES**
▪ Clause 1.17A(c). Has been identified as being within a wilderness area (identified under the *Wilderness Act 1987*.	**NO**
▪ Clause 1.17A(e) & 1.19(1)e or 1.19(5)f. Has been identified as land that is within an environmentally sensitive area or by an environmental planning instrument as being within a buffer area, a river front area, an ecologically sensitive area, environmentally sensitive land or a protected area	**NO**
▪ Clause 1.19(1)a.or 1.19(5)a Has been identified as being within a heritage conservation area or a draft heritage conservation area.	**YES**
▪ Clause 1.19(1)b or 1.19(5)b. Has been identified as being land that is reserved for a public purpose in an environmental planning instrument.	**NO**
▪ Clause 1.19(1)c or 1.19(5)c. Has been identified as being on an Acid Sulfate Soils Map as being Class 1 or Class 2.	**NO**
▪ Clause 1.19(1)d or 1.19(5)e. Has been identified as land that is subject to a biobanking agreement under part 7A of the threatened Species Conservation Act 1995 or a property vegetation plan under the Native Vegetation Act 2003.	**NO**
▪ Clause 1.19(1)f or 1.19(5)g. Has been identified by an environmental planning instrument, a development control plan or a policy adopted by the Council as being or affected by a coastline hazard, a coastal hazard or a coastal erosion hazard.	**NO**
▪ Clause 1.19(1)g or 1.19(5)h. Has been identified as being land in a foreshore area.	**NO**
▪ Clause 1.19(1)h. Has been identified as land that is in the 25 ANEF contour or a higher ANEF contour. (Applies only to the General Housing Code)	**NO**
▪ Clause 1.19(1)j or 1.19(5)i. Has been identified as unsewered land within a drinking water catchment.	**NO**
▪ Clause 1.19(1)i. Has been identified as land that is declared to be a special area under the Sydney Water Catchment Management Act 1998.	**NO**

Housing Alterations Code
Complying development under the Housing Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Commercial and Industrial Alterations Code
Complying development under the Commercial and Industrial Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Subdivisions Code
Complying development under the Subdivisions Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3)applies

Rural Housing Code
The Rural Housing Code does not apply to this Local Government Area.

General Development Code
Complying development under the General Development Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Demolition Code
Complying development under the Demolition Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Low Rise Medium Density Housing Code

This Code has been deferred until 1 July 2019.

(4B) Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council : The owner (or any previous owner) of the land has not consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

(5) Mine Subsidence District

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of the mine subsidence compensation act, 1961.

(6) Road Widening and/or Road Realignment affected by (a) Division 2 of Part 3 of the Roads act 1993 or (c) any resolution of council or other authority.

This land **is not** affected by road widening and/or road realignment under section 25 of the Roads Act, 1993 and/or resolution of Council or any other authority.

(6) Road Widening and/or Road Realignment Affected by (b) any environmental planning instrument.

This land **is not** affected by any road widening or road realignment under any planning instrument.

(7) Council and other public authorities policies on hazard risk restrictions:

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

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

(7A) Flood related development controls information.

The development on this land or part of this land is subject to flood related development controls refer to Clause 7.15 of Sydney Local Environment Plan 2012 and Section 3.7 of Sydney Development Control Plan 2012.

(8) Land reserved for acquisition

No environmental planning instrument, or proposed environmental planning instrument applying to the land, provides for the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

(9) Contribution plans

The following Contributions Plans apply to properties within the City of Sydney local government area. Contributions plans marked **YES** may apply to this property:

▪ Central Sydney Development Contributions Plan 2013 – in operation 9th July 2013	**YES**
▪ City of Sydney Development Contributions Plan 2015 – in operation 1st July 2016	**NO**
▪ Redfern Waterloo Authority Contributions Plan 2006 – in operation 16th May 2007 ▪ Redfern Waterloo Authority Affordable Housing Contributions Plan – in operation 16th May 2007	**NO**

(9A) Biodiversity certified land

The land has not been certified as biodiversity certified land.

(10) Biodiversity Conservation Act 2016

Not Applicable.

(10A) Native vegetation clearing set asides

Not Applicable.

(11) Bush fire prone land

The land has not been identified as Bush fire prone land.

(12) Property vegetation plans

Not Applicable.

(13) Orders under Trees (Disputes Between Neighbours) Act 2006

Council has not been notified of an order which as been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land.

(14) Directions under Part 3A

Not Applicable.

(15) Site compatibility certificates and conditions for seniors housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (seniors housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any condition of consent to a development application granted after 11 October 2007 required by State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

(16) Site compatibility certificates for infrastructure, schools or TAFE establishments

The land to which the certificate relates is not subject to a valid site compatibility certificate (infrastructure), of which Council is aware, in respect of proposed development on the land.

(17) Site compatibility certificates and conditions for affordable rental housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (affordable rental housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

(18) Paper subdivision information

Not Applicable.

(19) Site verification certificates

The land to which the certificate relates is not subject to a valid site verification certificate of which Council is aware.

(20) Loose-fill asbestos insulation

Not Applicable

(21) Affected building notices and building product rectification orders

(1)The land to which the certificate relates is not subject to any affected building notice of which Council is aware.

(2) (a) The land to which the certificate relates is not subject to any building product rectification order of which Council is aware and has not been fully complied with.

(b) The land to which the certificate relates is not subject to any notice of intention to make a building product rectification order of which Council is aware and is outstanding.

(3) In this clause:
affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.
building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

Note. The following matters are prescribed by section 59 (2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) The land to which the certificate relates **is not** declared to be **significantly contaminated land** within the meaning of that act as at the date when the certificate is issued.

(b) The land to which the certificate relates **is not** subject to a **management order** within the meaning of that act as at the date when the certificate is issued.

(c) The land to which the certificate relates **is not** the subject of an **approved voluntary management proposal** within the meaning of that act at the date the certificate is issued.

(d) The land to which the certificate relates **is not** the subject of an **ongoing maintenance order** within the meaning of that act as at the date when the certificate is issued.

(e) As at the date when the certificate is issued, Council **has not** identified that a **site audit statement** within the meaning of that act has been received in respect of the land the subject of the certificate.

PLANNING CERTIFICATE SECTION 10.7 (2) INFORMATION:
Information provided in accordance with planning certificate section 10.7 (2) has been taken from council's records and advice from other authorities but council disclaims all liability for any omission or inaccuracy in the information. Specific inquiry should be made where doubt exists.

PLANNING CERTIFICATE UNDER SECTION 10.7 (5) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

PLANNING CERTIFICATE SECTION 10.7 (5) ADVICE is current as at 12:00 noon two working days prior to the date of issue of this certificate. The following matters have been considered & details provided where information exists: easements in favour of council; parking permit scheme; heritage floor space restrictions; low-rental residential building; foreshore building line; tree preservation order.

Contaminated Land Potential:
Council records do not have sufficient information about the uses (including previous uses) of the land which is the subject of this section 10.7 certificate to confirm that the land has not been used for a purpose which would be likely to have contaminated the land. Parties should make their own enquiries as to whether the land may be contaminated.

Hazard Risk Restriction:
Some City of Sydney Local Environmental Plans incorporate Acid Sulfate soil maps. Development on the land identified in those maps should have regard to the acid sulfate soil clause within the relevant Local Environmental Plan.

Construction Noise and View Loss Advice:
Intending purchasers are advised that the subject property may be affected by construction noise and loss or diminution of views as a result of surrounding development.

Outstanding Notice & Order information
In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order relating to Fire Safety (being an Order or Notice of Intention to issue an Order under Part 2 of Schedule 5 of the Environmental Planning and Assessment Act, 1979). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order (being an Order or Notice of Intention to issue an Order of a type other than relating to fire safety). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

Neighbourhood Parking Policy
The City of Sydney co-ordinates a Resident Permit Parking Scheme and a Visitor Permit Parking scheme. This property may be restricted from participating in either scheme. Eligibility may change after the date of this certificate, as parking supply and other traffic demands change. For more information contact Council's call centre on 9265 9333.

ADVICE FROM OTHER BODIES

Sydney Ports Corporation Advice

Some land in the City of Sydney located in the vicinity of the White Bay, Glebe Island and Darling Harbour ports may be affected by noise from port operations.

Advice provided in accordance with planning certificate section 10.7 (5) is supplied in good faith. Council accepts no liability for the validity of the advice given. (see section 10.7 (6) of the Environmental Planning and Assessment Act, 1979).

For information regarding outstanding notices and orders a CERTIFICATE FOR OUTSTANDING NOTICES OF INTENTION AND/OR AN ORDER UNDER SECTION 735A OF THE LOCAL GOVERNMENT ACT, 1993 AND SECTION 121ZP OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 may be applied for at Sydney City Council.

Planning certificate section 10.7 (2), local planning controls are available are available online at www.cityofsydney.nsw.gov.au

General Enquiries:
Telephone: 02 9265 9333

Town Hall House
Level 2
Town Hall House
456 Kent Street
Sydney
8am – 6pm Monday - Friday

State planning controls are available online at www.legislation.nsw.gov.au

Where planning certificate section 10.7 (5) matters are supplied, complete details are available by writing to:
Chief Executive Officer
City of Sydney
G.P.O. Box 1591
Sydney NSW 2000

End of Document

City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

Telephone +61 2 9265 9333
Fax +61 2 9265 9222
council@cityofsydney.nsw.gov.au

GPO Box 1591 Sydney NSW 2001
cityofsydney.nsw.gov.au

JBSG AUSTRALIA PTY LTD
Level 1 50 Margaret St
SYDNEY NSW 2000

PLANNING CERTIFICATE

Under Section 10.7 of the Environmental Planning and Assessment Act, 1979

Applicant:	JBSG AUSTRALIA PTY LTD
Your reference:	
Address of property:	9 Upper Fort Street , MILLERS POINT NSW 2000
Owner:	MINISTER FOR EDUCATION
Description of land:	Lot 4 DP 732592 Crown Reserve 1002989
Certificate No.:	2019303320
Certificate Date:	2/07/19
Receipt No:	0139110
Fee:	$80.00
Paid:	2/07/19

Title information and description of land are provided from data supplied by the Valuer General and shown where available.

Issuing Officer
per **Monica Barone**
Chief Executive Officer

CERTIFICATE ENQUIRIES:
Ph: 9265 9333
Fax: 9265 9415

Sydney2030/Green/Global/Connected

PLANNING CERTIFICATE UNDER SECTION 10.7 (2) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - ENVIRONMENTAL PLANNING & ASSESSMENT REGULATION, 2000, CLAUSES (1) - (2).

DEVELOPMENT CONTROLS

The following information must be read in conjunction with and subject to all other provisions of the environmental planning instruments specified in this certificate.

ZONING

Zone B8 Metropolitan Centre (Sydney Local Environmental Plan 2012)

1 Objectives of zone
• To recognise and provide for the pre-eminent role of business, office, retail, entertainment and tourist premises in Australia's participation in the global economy.
• To provide opportunities for an intensity of land uses commensurate with Sydney's global status.
• To permit a diversity of compatible land uses characteristic of Sydney's global status and that serve the workforce, visitors and wider community.
• To encourage the use of alternatives to private motor vehicles such as public transport, walking or cycling.
• To promote uses with active street frontages on main streets and on streets in which buildings are used primarily (at street level) for the purposes of retail premises.

2 Permitted without consent
Nil

3 Permitted with consent
Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Information and education facilities; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Tourist and visitor accommodation; Any other development not specified in item 2 or 4

4 Prohibited
Nil

PROPOSED ZONING

This property is not affected by a draft zone.

LOCAL PLANNING CONTROLS

Sydney Local Environmental Plan 2012 (as amended) – Published 14 December 2012 NSW Legislation Website.

Sydney Development Control Plan 2012 (as amended) - (commenced 14.12.2012)

Planning Proposal: Amendment of Sydney Local Environmental Plan 2012 – Millers Point

The Planning Proposal seeks to amend the planning controls for Millers Point Heritage Conservation Area under Sydney Local Environmental Plan 2012.

Planning Proposal Serviced Apartments: Amendment of the following Local Environmental Plans.

- **Sydney Local Environmental Plan 2012;**
- **Sydney Local Environmental Plan 2005;**
- **Sydney Local Environmental Plan (Green Square Town Centre) 2013; and**
- **Sydney Local Environmental Plan (Green Square Town Centre Stage 2) 2013.**

This Planning Proposal explains the intent of, and justification for the proposed amendment to ensure State Environmental Planning Policy No. 65 (SEPP 65) and the Apartment Design Guide provisions apply to serviced apartments.

HERITAGE

Conservation Area
(Sydney Local Environmental Plan 2012)
This property has been identified as land within a Heritage Conservation Area.

Item of Environmental Heritage
(Sydney Local Environmental Plan 2012)
This property has been listed as an Item of Environmental Heritage

State Heritage Register (Amendment To Heritage Act, 1977 Gazetted 2/4/99)
This property may be identified as being of state heritage significance, and entered on the State Heritage Register.

To confirm whether the site is listed under the Heritage Act 1977 a Section 167 Certificate should be obtained from the NSW Heritage Office by contacting the NSW Heritage office on (02) 9873 8500 for an application from or by downloading the application form from www.heritage.nsw.gov.au

STATE PLANNING INSTRUMENTS

Full copies of State Environmental Planning Policies are available online at www.planning.nsw.gov.au.

State Environmental Planning Policy No. 19 – Bushland in Urban Areas
This is a policy to protect and preserve bushland within certain urban areas, as part of the natural heritage or for recreational, educational and scientific purposes. This policy is designed to protect bushland in public open space zones and reservations, and to ensure that bush preservation is given a high priority when local environmental plans for urban development are prepared.

State Environmental Planning Policy No. 32 – Urban Consolidation
This policy implements the principles of urban consolidation, including the orderly, economic use and development of land. The policy enables urban land which is no longer required for the purpose for which it is currently zoned or used to be redeveloped for multi-unit housing and related development.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
This policy aims to amend the definitions of hazardous and offensive industries; to render ineffective any environmental planning instruments not defining hazardous or offensive as per this policy; to control development of hazardous and offensive industries.

State Environmental Planning Policy No. 55 – Remediation of Land
This policy provides planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals. To assist councils and developers, the Department, in conjunction with the Environment Protection Authority, has prepared Managing Land Contamination: Planning Guidelines.

State Environmental Planning Policy No. 64 – Advertising and Signage
This policy aims to ensure that signage (including advertising):
Is compatible with the desired amenity and visual character of an area, and
- Provides effective communications in suitable locations, and
- Is of a high quality design and finish.

To this end the policy regulates signage (but not content) under Part 4 of the Act and provides limited time consents for the display of certain advertisements. The policy does not apply to signage that is exempt development under an environmental planning instrument. It does apply to all signage that can be displayed with or without consent and is visible from any public place or reserve, except as provided by the policy.

This policy should be read in conjunction with the Sydney Local Environmental Plan 2005, the City of Sydney Signage and Advertising Structures Development Control Plan 2005 and State Environmental Planning Policy No. 60 where these apply.

State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Buildings
This policy aims to improve the design quality of flats of three or more storeys with four or more self contained dwellings. The policy sets out a series of design principles for local councils to consider when assessing development proposals for residential flat development. The policy also creates a role for an independent design review panel and requires the involvement of a qualified designer in the design and approval process.

State Environmental Planning Policy No.70 – Affordable Housing (Revised Schemes) (Gazetted 31.05.02)
The policy identifies that there is a need for affordable housing in the City of Sydney, describes the kinds of households for which affordable housing may be provided and makes a requirement with respect to the imposition of conditions relating to the provision of affordable housing (provided other requirements under the Act are met).

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004
This Policy does not apply to land described in Schedule 1 (Environmentally sensitive land), or land that is zoned for industrial purposes, or land to which an interim heritage order made under the *Heritage Act 1997* by the Minister administering that Act applies, or land to which a listing on the State Heritage Register kept under the *Heritage Act 1997* applies.

The Policy aims to encourage the provision of housing (including residential care facilities) that will increase the supply and diversity of residences that meet the needs of seniors or people with a disability, and make efficient use of existing infrastructure and services, and be of good design.

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
Aims to ensure consistency in the implementation of the BASIX scheme throughout the State. This Policy achieves its aim by overriding provisions of other environmental planning instruments and development control plans that would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.

State Environmental Planning Policy (State Significant Precincts) 2005
This Policy aims to identify development of economic, social or environmental significance to the State or regions of the State so as to provide a consistent and comprehensive assessment and decision making process for that development.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007
This Policy aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the State.

State Environmental Planning Policy (Temporary Structures and Places of Public Entertainment) 2007
This Policy aims to ensure that suitable provision is made for ensuring the safety of persons using temporary structures or places of public entertainment.

State Environmental Planning Policy (Infrastructure) 2007
This Policy aims to facilitate the effective delivery of infrastructure across the state.
NB: This SEPP also contains exempt & complying provisions

State Environmental Planning Policy (Repeal of Concurrence and Referral Provisions) 2008
This Policy is an 'amending instrument' that removes or modifies referral and concurrence clauses within local environmental plans (LEPs), regional environmental plans (REPs) and State environmental planning policies (SEPPs).

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
This Policy Streamlines assessment processes for development that complies with specified development standards. The policy provides exempt and complying development codes that have State-wide application, identifying, in the General Exempt Development Code, types of development that are of minimal environmental impact that may be carried out without the need for development consent; and, in the General Housing Code, types of complying development that may be carried out in accordance with a complying development certificate as defined in the Environmental Planning and Assessment Act 1979.

State Environmental Planning Policy (Affordable Rental Housing) 2009
Establishes a consistent planning regime for the provision of affordable rental housing. The policy provides incentives for new affordable rental housing, facilitates the retention of existing affordable rentals, and expands the role of not-for-profit providers. It also aims to support local centres by providing housing for workers close to places of work, and facilitate development of housing for the homeless and other disadvantaged people. NOTE: Does not apply to land at Green Square or at Ultimo Pyrmont, or on southern employment land.

State Environmental Planning Policy (Urban Renewal) 2010
The aims of this Policy are as follows:
(a) to establish the process for assessing and identifying sites as urban renewal precincts,
(b) to facilitate the orderly and economic development and redevelopment of sites in and around urban renewal precincts,
(c) to facilitate delivery of the objectives of any applicable government State, regional or metropolitan strategies connected with the renewal of urban areas that are accessible by public transport.

State Environmental Planning Policy (State and Regional Development) 2011
The aims of this Policy are as follows:
(a) to identify development that is State significant development,
(b) to identify development that is State significant infrastructure and critical State significant infrastructure,
(c) to confer functions on joint regional planning panels to determine development applications.

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017
The aims of this Policy are:
(a) to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and
(b) to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
The aim of this Policy is to facilitate the effective delivery of educational establishments and early education and care facilities across the state.

State Environmental Planning Policy (Coastal Management) 2018
The aim of this Policy is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal

Management Act 2016, including the management objectives for each coastal management area, by:
(a) managing development in the coastal zone and protecting the environmental assets of the coast, and
(b) establishing a framework for land use planning to guide decision-making in the coastal zone, and
(c) mapping the 4 coastal management areas that comprise the NSW coastal zone for the purpose of the definitions in the Coastal Management Act 2016.

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005
This plan applies to land within the Sydney Harbour Catchment, as shown edged heavy black on the Sydney Harbour Catchment Map, being part of the Sydney Region declared by order published in Gazette No 38 of 7 April 1989 at page 1841.

This plan has the following aims with respect to the Sydney Harbour Catchment:
to ensure that the catchment, foreshores, waterways and islands of Sydney Harbour are recognised, protected and maintained: as outstanding natural asset, and as a public asset of national and heritage significance, for existing and future generations; to ensure a healthy, sustainable environment on land and water; to achieve a high quality urban environment; to ensure a prosperous working waterfront and an effective transport corridor, to encourage a culturally rich and vibrant place for people; to ensure accessibility to and along Sydney Harbour and its foreshores; to ensure the protection, maintenance and rehabilitation of watercourses, wetlands, riparian lands, remnant vegetation and ecological connectivity, to provide a consolidated, simplified and updated legislative framework for future planning.

OTHER MATTERS AFFECTING THE LAND AS PRESCRIBED BY SCHEDULE 4 - E. P. & A. REGULATION, 2000. CLAUSES (2A) - (10)

(2A) Zoning and land use under *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*

This SEPP does not apply to the land.

(3) Complying Development
(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development 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*.

(2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4),1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Note: All Exempt and Complying Development Codes: Council does not have sufficient information to ascertain the extent of a land based exclusion on a property. Despite any statement preventing the carrying out of complying development in the Codes listed below, complying development may still be carried out providing the development is not on the land affected by the exclusion and meets the requirements and standards of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

General Housing Code & Commercial and Industrial (New Buildings and Additions) Code

Complying development **may not** be carried out on the land under the General Housing Code & the Commercial and Industrial (New Buildings and Additions) Code if because of the provisions of clause 1.17A, 1.18(1)(c3) & 1.19 (Land-based requirements for exempt and complying development) any of the following statements are **YES**

▪ Clause 1.19(5)d. Land that is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997. (Applies only to the Commercial and Industrial (New Buildings and Additions) Code.	NO
▪ Clause 1.17A(d). Has been identified as a property that comprises, or on which there is, an item that is listed on the State Heritage Register under the *Heritage Act 1977* or that is subject to an interim heritage order under the *Heritage Act 1977*.	NO
▪ Clause 1.17A(d) & 1.18(1)(c3). Has been identified as a property that comprises, or on which there is, a heritage item or draft heritage item.	**YES**
▪ Clause 1.17A(c). Has been identified as being within a wilderness area (identified under the *Wilderness Act 1987*.	**NO**
▪ Clause 1.17A(e) & 1.19(1)e or 1.19(5)f. Has been identified as land that is within an environmentally sensitive area or by an environmental planning instrument as being within a buffer area, a river front area, an ecologically sensitive area, environmentally sensitive land or a protected area	**NO**
▪ Clause 1.19(1)a.or 1.19(5)a Has been identified as being within a heritage conservation area or a draft heritage conservation area.	**YES**
▪ Clause 1.19(1)b or 1.19(5)b. Has been identified as being land that is reserved for a public purpose in an environmental planning instrument.	**NO**
▪ Clause 1.19(1)c or 1.19(5)c. Has been identified as being on an Acid Sulfate Soils Map as being Class 1 or Class 2.	**NO**
▪ Clause 1.19(1)d or 1.19(5)e. Has been identified as land that is subject to a biobanking agreement under part 7A of the threatened Species Conservation Act 1995 or a property vegetation plan under the Native Vegetation Act 2003.	**NO**
▪ Clause 1.19(1)f or 1.19(5)g. Has been identified by an environmental planning instrument, a development control plan or a policy adopted by the Council as being or affected by a coastline hazard, a coastal hazard or a coastal erosion hazard.	**NO**
▪ Clause 1.19(1)g or 1.19(5)h. Has been identified as being land in a foreshore area.	**NO**
▪ Clause 1.19(1)h. Has been identified as land that is in the 25 ANEF contour or a higher ANEF contour. (Applies only to the General Housing Code)	**NO**
▪ Clause 1.19(1)j or 1.19(5)i. Has been identified as unsewered land within a drinking water catchment.	**NO**
▪ Clause 1.19(1)i. Has been identified as land that is declared to be a special area under the Sydney Water Catchment Management Act 1998.	**NO**

Housing Alterations Code

Complying development under the Housing Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Commercial and Industrial Alterations Code
Complying development under the Commercial and Industrial Alterations Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Subdivisions Code
Complying development under the Subdivisions Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3)applies

Rural Housing Code
The Rural Housing Code does not apply to this Local Government Area.

General Development Code
Complying development under the General Development Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Demolition Code
Complying development under the Demolition Code **may not** be carried out on the land.

Reason why:

Refer to 1.17A & 1.18 (1) (c3) State Environmental Planning Policy (Except and Complying Development Codes) 2008:

clause 1.17A(d) or 1.18 (1) (c3) applies

Low Rise Medium Density Housing Code
This Code has been deferred until 1 July 2019.

(4B) Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

In relation to a coastal council : The owner (or any previous owner) of the land has not consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Note. “Existing coastal protection works” are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

(5) Mine Subsidence District

This land has not been proclaimed to be a mine subsidence district within the meaning of section 15 of the mine subsidence compensation act, 1961.

(6) Road Widening and/or Road Realignment affected by (a) Division 2 of Part 3 of the Roads act 1993 or (c) any resolution of council or other authority.

This land **is not** affected by road widening and/or road realignment under section 25 of the Roads Act, 1993 and/or resolution of Council or any other authority.

(6) Road Widening and/or Road Realignment Affected by (b) any environmental planning instrument.

This land **is not** affected by any road widening or road realignment under any planning instrument.

(7) Council and other public authorities policies on hazard risk restrictions:

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

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

(7A) Flood related development controls information.

The development on this land or part of this land is subject to flood related development controls refer to Clause 7.15 of Sydney Local Environment Plan 2012 and Section 3.7 of Sydney Development Control Plan 2012.

(8) Land reserved for acquisition

No environmental planning instrument, or proposed environmental planning instrument applying to the land, provides for the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

(9) Contribution plans

The following Contributions Plans apply to properties within the City of Sydney local government area. Contributions plans marked **YES** may apply to this property:

▪ Central Sydney Development Contributions Plan 2013 – in operation 9th July 2013	**YES**
▪ City of Sydney Development Contributions Plan 2015 – in operation 1st July 2016	**NO**
▪ Redfern Waterloo Authority Contributions Plan 2006 – in operation 16th May 2007 ▪ Redfern Waterloo Authority Affordable Housing Contributions Plan – in operation 16th May 2007	**NO**

(9A) Biodiversity certified land

The land has not been certified as biodiversity certified land.

(10) Biodiversity Conservation Act 2016

Not Applicable.

(10A) Native vegetation clearing set asides

Not Applicable.

(11) Bush fire prone land

The land has not been identified as Bush fire prone land.

(12) Property vegetation plans

Not Applicable.

(13) Orders under Trees (Disputes Between Neighbours) Act 2006

Council has not been notified of an order which as been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on the land.

(14) Directions under Part 3A

Not Applicable.

(15) Site compatibility certificates and conditions for seniors housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (seniors housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any condition of consent to a development application granted after 11 October 2007 required by State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

(16) Site compatibility certificates for infrastructure, schools or TAFE establishments

The land to which the certificate relates is not subject to a valid site compatibility certificate (infrastructure), of which Council is aware, in respect of proposed development on the land.

(17) Site compatibility certificates and conditions for affordable rental housing

(a) The land to which the certificate relates is not subject to a current site compatibility certificate (affordable rental housing), of which Council is aware, in respect of proposed development on the land.

(b) The land to which the certificate relates is not subject to any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

(18) Paper subdivision information

Not Applicable.

(19) Site verification certificates

The land to which the certificate relates is not subject to a valid site verification certificate of which Council is aware.

(20) Loose-fill asbestos insulation

Not Applicable

(21) Affected building notices and building product rectification orders

(1)The land to which the certificate relates is not subject to any affected building notice of which Council is aware.

(2) (a) The land to which the certificate relates is not subject to any building product rectification order of which Council is aware and has not been fully complied with.

(b) The land to which the certificate relates is not subject to any notice of intention to make a building product rectification order of which Council is aware and is outstanding.

(3) In this clause:
affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.
building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

Note. The following matters are prescribed by section 59 (2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) The land to which the certificate relates **is not** declared to be **significantly contaminated land** within the meaning of that act as at the date when the certificate is issued.

(b) The land to which the certificate relates **is not** subject to a **management order** within the meaning of that act as at the date when the certificate is issued.

(c) The land to which the certificate relates **is not** the subject of an **approved voluntary management proposal** within the meaning of that act at the date the certificate is issued.

(d) The land to which the certificate relates **is not** the subject of an **ongoing maintenance order** within the meaning of that act as at the date when the certificate is issued.

(e) As at the date when the certificate is issued, Council **has not** identified that a **site audit statement** within the meaning of that act has been received in respect of the land the subject of the certificate.

PLANNING CERTIFICATE SECTION 10.7 (2) INFORMATION:
Information provided in accordance with planning certificate section 10.7 (2) has been taken from council's records and advice from other authorities but council disclaims all liability for any omission or inaccuracy in the information. Specific inquiry should be made where doubt exists.

PLANNING CERTIFICATE UNDER SECTION 10.7 (5) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

PLANNING CERTIFICATE SECTION 10.7 (5) ADVICE is current as at 12:00 noon two working days prior to the date of issue of this certificate. The following matters have been considered & details provided where information exists: easements in favour of council; parking permit scheme; heritage floor space restrictions; low-rental residential building; foreshore building line; tree preservation order.

Contaminated Land Potential:
Council records do not have sufficient information about the uses (including previous uses) of the land which is the subject of this section 10.7 certificate to confirm that the land has not been used for a purpose which would be likely to have contaminated the land. Parties should make their own enquiries as to whether the land may be contaminated.

Hazard Risk Restriction:
Some City of Sydney Local Environmental Plans incorporate Acid Sulfate soil maps. Development on the land identified in those maps should have regard to the acid sulfate soil clause within the relevant Local Environmental Plan.

Construction Noise and View Loss Advice:
Intending purchasers are advised that the subject property may be affected by construction noise and loss or diminution of views as a result of surrounding development.

Outstanding Notice & Order information
In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order relating to Fire Safety (being an Order or Notice of Intention to issue an Order under Part 2 of Schedule 5 of the Environmental Planning and Assessment Act, 1979). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

In relation to this property, there **is not** an outstanding Order or Notice of Intention to issue an Order (being an Order or Notice of Intention to issue an Order of a type other than relating to fire safety). Further information about the Order or Notice of Intention to issue an Order may be obtained by applying for a certificate under clause 41 of Schedule 5 of the Environmental Planning and Assessment Act and Section 735A of the Local Government Act.

Neighbourhood Parking Policy
The City of Sydney co-ordinates a Resident Permit Parking Scheme and a Visitor Permit Parking scheme. This property may be restricted from participating in either scheme. Eligibility may change after the date of this certificate, as parking supply and other traffic demands change. For more information contact Council's call centre on 9265 9333.

ADVICE FROM OTHER BODIES

Advice provided in accordance with planning certificate section 10.7 (5) is supplied in good faith. Council accepts no liability for the validity of the advice given. (see section 10.7 (6) of the Environmental Planning and Assessment Act, 1979).

For information regarding outstanding notices and orders a CERTIFICATE FOR OUTSTANDING NOTICES OF INTENTION AND/OR AN ORDER UNDER SECTION 735A OF THE LOCAL GOVERNMENT ACT, 1993 AND SECTION 121ZP OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979 may be applied for at Sydney City Council.

Planning certificate section 10.7 (2), local planning controls are available are available online at www.cityofsydney.nsw.gov.au

General Enquiries:
Telephone: 02 9265 9333

Town Hall House
Level 2
Town Hall House
456 Kent Street
Sydney
8am – 6pm Monday - Friday

State planning controls are available online at www.legislation.nsw.gov.au

Where planning certificate section 10.7 (5) matters are supplied, complete details are available by writing to:
Chief Executive Officer
City of Sydney
G.P.O. Box 1591
Sydney NSW 2000

End of Document

Appendix E EPA Register Search Results

Search results

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

Suburb - Millers Point

returned 12 results

Export to excel 1 of 1 Pages Search Again

Number	Name	Location	Type	Status	Issued date
13336	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	POEO licence	Issued	25 Oct 2010
1123651	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	02 Jun 2011
1504504	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	04 Apr 2012
1512451	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	Compliance Audit	Complete	27 Feb 2013
1513809	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	20 May 2013
1517436	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	05 Nov 2013
1532710	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	12 Aug 2015
3085779759	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	Penalty Notice	Issued	18 Oct 2016
1564747	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	28 May 2018
1578531	BARANGAROO DELIVERY AUTHORITY (BDA)	Barangaroo South/ Central and a portion of Hickson Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000	s.58 Licence Variation	Issued	02 May 2019
3085782114	LENDLEASE ENGINEERING PTY LIMITED	Barangaroo South/ Central and a portion of Hickson	Penalty Notice	Issued	02 May 2017

For business and industry

For local government

Contact us

		Rd (near to 30-38 Hickson Rd), MILLERS POINT, NSW 2000		
10311	MULTIPLEX CONSTRUCTIONS (NSW) PTY LTD	Towns Place, MILLERS POINT, NSW 2000	POEO licence	Surrendered12 Jan 2000

01 July 2019

131 555 (tel:131555)

info@epa.nsw.gov.au (mailto:info@epa.nsw.gov.au)

EPA Office Locations (https://www.epa.nsw.gov.au/about-us/contact-us/locations)

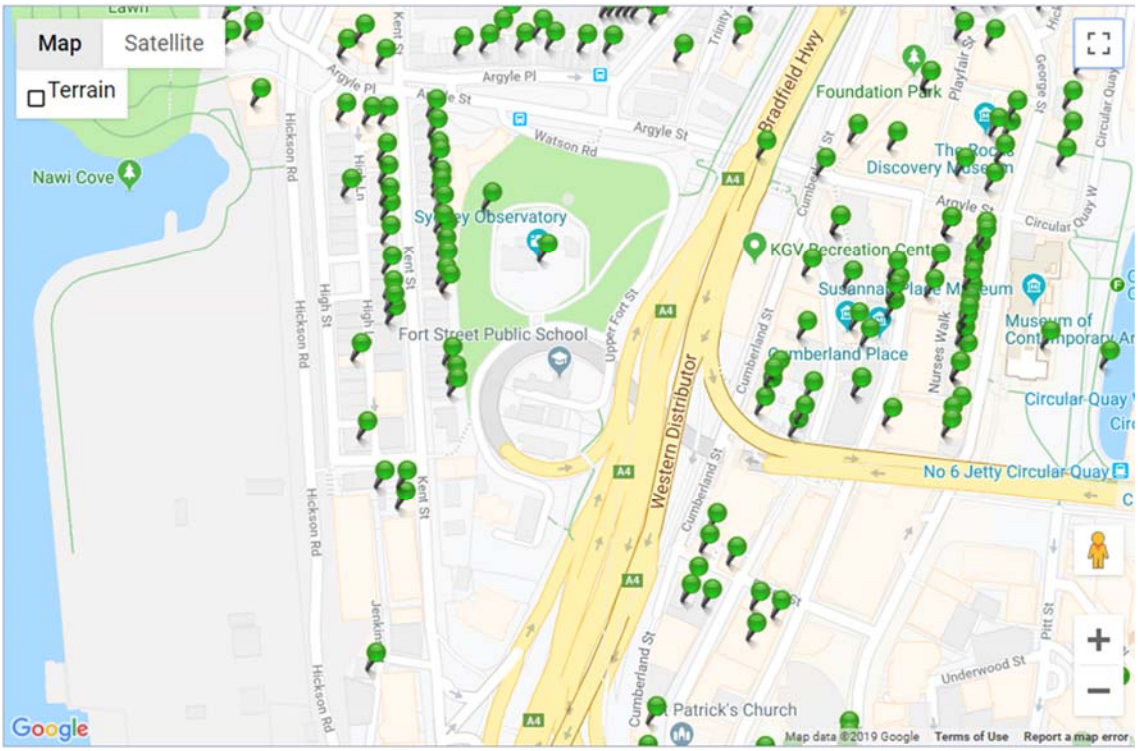
Accessibility (https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index)
Disclaimer (https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/disclaimer)
Privacy (https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/privacy)
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Find us on (https://au.linkedin.com/company/environment-protection-authority-nsw) (https://twitter.com/NSWEPA)

Appendix F Heritage Records

Heritage Locations.

Please refer to Curio (2019) for Heritage Inventory.



Appendix G Excavation Logs

TP01A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.7
Bore Diameter (mm): 1200

Eastings (GDA 94): 333901.8187
Northings (GDA 94): 6251857.56
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit		0,02		Fill	ASPHALT		
				Fill	Silty GRAVELS (Roadbase), medium dense, fine to medium gravels with a silty matrix, grey, heterogeneous and damp. No inclusions.	TP01A_0.1-0.2	No odour, staining or asbestos observed
		0,27		Fill	Silty GRAVELS (Roadbase), coarse gravels with a silty matrix, grey, heterogeneous and damp. No inclusions.	TP01A_0.3-0.38	No odour, staining or asbestos observed
		0,38		Fill	MUDSTONE gravels, fine to coarse gravels, white, heterogeneous.	TP01A_0.38-0.42	No odour, staining or asbestos observed
	0,5	0,42		Fill	Clayey Sandy GRAVELS, fine to medium grained sands to cobbles, brown, sub-angular, heterogenous, medium dense and damp. No inclusions.	TP01A_0.5-0.6	No odour, staining or asbestos observed
		0,60		SW	SANDSTONE, dense, medium grained, orange with purple mottling, homogeonous.	TP01A_0.6-0.7	No odour, staining or asbestos observed
		0,70			Borehole TP01A terminated at 0.7m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP01B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.7
Bore Diameter (mm): 1200

Eastings (GDA 94): 333904.0289
Northings (GDA 94): 6251851.723
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit		0,02		Fill	ASPHALT		
				Fill	Silty GRAVELS, medium dense, fine to medium grained gravels with a silty matrix, grey, angular, heteroenous and damp. No inclusions.	TP01B_0.02-0.2	No odour, staining or asbestos observed
		0,20		Fill	GRAVELS, medium dense, fine gravels to cobbles, grey-black, angular, heterogenous and damp. No inclusions.	TP01B_0.2-0.3	Three suspected ACM fragments located at 0.2 m bgs 1 m south to TP01B in the Trench. No odour or staining observed
		0,30		Fill	Sandstone GRAVELS, medium dense, cobble gravels, orangey red, sub-angular, heterogenous and damp. No inclusions.		
	0,5					TP01B_0.4-0.5	No odour, staining or asbestos observed
		0,55		SW	SANDSTONE, dense, medium grained, orangey red, homogenous.		
						TP01B_0.6-0.7	No odour, staining or asbestos observed
		0,70			Borehole TP01B terminated at 0.7m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP02A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.6
Bore Diameter (mm): 1200

Eastings (GDA 94): 333907.2024
Northings (GDA 94): 6251856.426
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit		0,02		Fill	ASPHALT		
				Fill	GRAVELS (Roadbase), medium dense, fine to coarse gravels, grey, angular, heterogeneous and damp with. No inclusions.	TP02A_0.05-0.2	No odour, staining or asbestos observed
		0,20		Fill	SANDSTONE boulders, medium dense, medium to coarse grained, orangey red, heterogenous and damp. No inclusions.	TP02A_0.2-0.3	No odour, staining or asbestos observed
		0,40		SW	SAND (Weathered Sandstone), medium grained, whiteish yellow, homogenous and damp.	TP02A_0.4-0.5	No odour, staining or asbestos observed
	0,5						
		0,60			Borehole TP02A terminated at 0.6m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP02B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.65
Bore Diameter (mm): 1200

Eastings (GDA 94): 333917.6298
Northings (GDA 94): 6251856.086
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT		
		0,05		Fill	Silty GRAVELS, medium dense, fine to medium grained gravels with a silty matrix, grey, angular, heteroenous and damp. No inclusions.		
				Fill	Sandy GRAVELS, medium dense, coarse sand to cobbles, black, angular, heterogenous and damp.Some inclusions of asphaltic gravels, potential slag.	TP02B_0.1-0.2	Odour from potential asphalt. Black staining. No ACM
		0,20		Fill	GRAVELS, medium dense, fine gravels to cobbles, grey-black, angular, heterogenous and damp. No inclusions.		
		0,25		Fill	SANDSTONE cobbles to boulders, medium dense sand matrix, medium to coarse grained, orangey red, sub-rounded, heterogenous and damp. No inclusions.		
		0,30		Fill	Sandstone GRAVELS, medium dense, cobble gravels, orangey red, sub-angular, heterogenous and damp. No inclusions.		
	0,5						
		0,50		SW	SAND (Weathered Sandstone), medium grained, mottled whiteish red, homogenous and damp.	TP02B_0.5-0.6	No odour, staining or asbestos observed
		0,55		SW	SANDSTONE, dense, medium grained, orangey red, homogenous.		
		0,65					
		0,70			Borehole TP02B terminated at 0.65m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP03A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.65
Bore Diameter (mm): 1200

Eastings (GDA 94): 333922.0106
Northings (GDA 94): 6251877.861
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT		
		0,05		Fill	CONCRETE		
		0,17		Fill	SAND (Bedding), dense, fine to medium grained, well graded, light grey, angular, homogenous.	TP03A_0.17-2	No odour, staining or asbestos observed
		0,20		Fill	Gravelly Sandy CLAY, fine sands to cobbles, mottled brown and orange, heterogenous and moist. Inclusions of rootlets.	TP03A_0.3-0.4	No odour, staining or asbestos observed
	0,5						
		0,57		SP	SANDS (Weathered Sandstone), medium to coarse grained, red mottled white, heterogenous and damp.	TP03A_0.6-0.65	No odour, staining or asbestos observed
		0,65			Borehole TP03A terminated at 0.65m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP03B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 1.1
Bore Diameter (mm): 1200

Eastings (GDA 94): 333926.2682
Northings (GDA 94): 6251879.727
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit		0,02		Fill	ASPHALT		
				Fill	CONCRETE		
		0,11		Fill	SAND (Bedding), fine to medium grained, well graded, light grey, angular, homogenous and damp.	TP03B_0.11-0.13	No odour, staining or asbestos observed
		0,13		Fill		TP03B_0.15-0.2	No odour, staining or asbestos observed
		0,20		Fill	Gravelly SAND, dense, medium grained sands to fine gravel, dark brown, heterogenous and damp. Inclusions of rootlets.		
					Clayey SAND, fine to coarse grained, orangey brown, heterogenous and damp. No inclusions.	TP03B_0.3-0.4	No odour, staining or asbestos observed
	0,5						
		0,90		SW	SAND, fine grained, white mottled reddish brown, heterogenous and damp.		
	1,0					TP03B_1-1.1	No odour, staining or asbestos observed
		1,10			Borehole TP03B terminated at 1.1m		
	1,5						
	2,0						
	2,5						
	3,0						

TP04A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.5
Bore Diameter (mm): 1200

Eastings (GDA 94): 333914.269
Northings (GDA 94): 6251826.43
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				ML-SM	Sandy SILT (TOPSOIL), loose, fine grained sands to fine gravels, brown, heterogenous and damp. Inclusions of trace fine gravel.	TP04A_0.0-0.1	No odour, staining or asbestos observed
		0,15		SG	Gravelly SAND, medium dense, medium grained sands to cobbles, brown, heterogenous and damp.	TP04A_0.2-0.3	No odour, staining or asbestos observed
		0,30		SW	SANDSTONE, dense, fine to coarse grained, yellow / red / white, homogenous and damp.	TP04A_0.4-0.5	No odour, staining or asbestos observed
	0,5						
		0,50			Borehole TP04A terminated at 0.5m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP04B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.6
Bore Diameter (mm): 1200

Eastings (GDA 94): 333930.401
Northings (GDA 94): 6251826.587
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT	TP04B_0-0.1	No odour, staining or asbestos observed
		0,15		Fill	Sandy Silty GRAVEL, medium dense, coarse grained gravels with fine to medium grained sandy matrix, brown, heterogenous and damp. No inclusions.	TP04B_0.2-0.3	No odour, staining or asbestos observed
	0,5	0,40		SW	SAND, dense, medium grained, yellow, homogenous and damp. Inclusions of weathered sandstone.	TP04B_0.5-0.6	No odour, staining or asbestos observed
		0,60			Borehole TP04B terminated at 0.6m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP05A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.6
Bore Diameter (mm): 1200

Eastings (GDA 94): 333914.0452
Northings (GDA 94): 6251816.963
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT		
		0,03		Fill	CONCRETE		
		0,10		Fill	SAND, dense, fine to medium grained, poorly graded, black, heterogenous.	TP05A_0.1-0.14	No odour, staining or asbestos observed
		0,14		Fill	Relic ashy ASPHALT, loose to medium dense, fine gravels, black, heterogenous and damp.	TP05A_0.14-0.23	Potential slag clast sampled. Black staining. No odour or asbestos observed
		0,23		Fill	Clayey, Gravelly SAND, medium dense, fine grained sands to fine gravels, medium to dark orange / brown, heterogenous and damp. Inclusions of rootlets.	TP05A_0.3-0.4	No odour, staining or asbestos observed
	0,5						
		0,50		SP	Sandy GRAVELS, dense, fine grained to gravel, orange / brown, heterogenous and damp. Inclusions of fine sandstone cobbles.	TP05A_0.5-0.6	No odour, staining or asbestos observed
		0,60			Borehole TP05A terminated at 0.6m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP05B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 11/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.7
Bore Diameter (mm): 1200

Eastings (GDA 94): 333910.1416
Northings (GDA 94): 6251817.955
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Gravelly SILT (TOPSOIL), medium dense, fine to medium grained sands to fine gravels, dark brown / black, heterogenous and damp.	TP05B_0.1-0.2	No odour, staining or asbestos observed
		0,23		Fill	Clayey SAND, medium dense, fine grained sands, dark brown, angular, heterogenous and damp. Inclusions of rootlets and trace gravels.	TP05B_0.3-0.4	No odour, staining or asbestos observed
	0,5	0,45		SP	Gravelly SAND, medium dense, fine grained sands to fine gravels, orange / red, heterogenous and damp. Inclusions of sandstone gravels.	TP05B_0.6-0.7	No odour, staining or asbestos observed
		0,70			Borehole TP05B terminated at 0.7m		
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP06A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 15/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 0.25
Bore Diameter (mm): 1200

Eastings (GDA 94): 333916.8955
Northings (GDA 94): 6251811.077
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT		
		0,05		Fill	SANDSTONE cobbles with a Silty Sand matrix, medium dense, fine grained sands to cobbles, light to dark brownish grey, heterogenous, angular. Inclusions of rootlets.	TP06A_0.05-0.2	Test pit abandoned as archeological footing discovered at 0.2 m bgs.
		0,25			Borehole TP06A terminated at 0.25m		
	0,5						
	1,0						
	1,5						
	2,0						
	2,5						
	3,0						

TP06B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 15/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 1.3
Bore Diameter (mm): 1200

Eastings (GDA 94): 333931.2707
Northings (GDA 94): 6251807.979
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	ASPHALT		
		0,05		Fill	Silty Gravelly SAND, fine to coarse grained sands to fine gravels, orange / red with grey mottles, heterogenous, angular, damp. Inclusions of sandstone gravels. Colour change to light brown toward base of unit.	TP06B_0.1-0.2	No odour, staining or asbestos observed
	0,5					TP06B_0.5-0.6	No odour, staining or asbestos observed
	1,0					TP06B_1-1.1	No odour, staining or asbestos observed
		1,10		SW	SAND, dense, fine to coarse grained, mottled grey, homogenous and damp. Inclusions of weathered Sandstone.		
		1,30			Borehole TP06B terminated at 1.3m		
	1,5						
	2,0						
	2,5						
	3,0						

TP07A

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 15/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 2.55
Bore Diameter (mm): 1200

Eastings (GDA 94): 333955.1881
Northings (GDA 94): 6251811.077
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Sandy, SILT (TOPSOIL), medium dense, fine to medium grained, brown, heterogenous, damp. Inclusions of rootlets.		
		0,20		Fill	Gravelly SAND, medium dense, medium grained sands to cobbles, brown, heterogenous, sub-angular to angular, damp to moist. No inclusions.		
	0,5					TP07A_0.4-0.5	No odour, staining or asbestos observed
	1,0						
		1,40		Fill	Asphaltic Roadbase GRAVELS, fine to medium gravels, black, heterogenous, angular.	TP07A_1.4-1.45	Black staining. No odour or asbestos observed
	1,5	1,45		Fill	Gravelly SAND, medium dense, medium grained sands to cobbles, blackish brown, heterogeneous and damp.		
						TP07A_1.8-1.9	Staining potnetially from above strata. No odour or asbestos observed
	2,0						
		2,00		SP	SANDSTONE, dense, fine to coarse grained, greyish white, homogenous and damp.		
	2,5					TP07A_2.4-2.5	No odour, staining or asbestos observed
		2,55			Borehole TP07A terminated at 2.55m		
	3,0						

TP07B

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 16/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 2.6
Bore Diameter (mm): 1200

Eastings (GDA 94): 333961.6941
Northings (GDA 94): 6251815.228
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Silty SAND (TOPSOIL), medium dense, fine to medium grained, brown, heterogenous and damp. No inclusions.	TP07B_0-0.2	No odour, staining or asbestos observed
		0,20		Fill	Gravelly SAND, coarse sands to boulders, light whiteish redddish brown, heterogenous, damp. Inclusions of brick.		
	0,5					TP07B_0.5-0.6	No odour, staining or asbestos observed
	1,0						
		1,10		Fill	Gravelly SAND, medium dense, medium grained sands to cobbles, brown, heterogenous and damp. Inclusions of rootlets.	TP07B_1.1-1.2	No odour, staining or asbestos observed
	1,5						
		1,50		Fill	Asphaltic Roadbase GRAVELS, fine to medium gravels, black, heterogenous, angular.	TP07B_1.5-1.6	Asphaltic odour. No staining or asbestos observed
		1,60		Fill	Gravelly SAND, medium dense, medium grained sands to fine gravels, black, heterogenous and damp. No inclusions.		
	2,0					TP07B_1.9-2	Black staining potentially from above strata. No odour or asbestos observed
		2,10		SC	Clayey SAND, dense, medium grained, light brown, heterogenous and damp.	TP07B_2.1-2.2	No odour, staining or asbestos observed
		2,40		SW	SANDSTONE, dense, medium to coarse grained, white, homogenous and damp.		
	2,5						
		2,60			Borehole TP07B terminated at 2.6m		
	3,0						

TP08

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 16/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 1.4
Bore Diameter (mm): 1200

Eastings (GDA 94): 333944.5058
Northings (GDA 94): 6251824.734
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Silty SAND (TOPSOIL), medium dense, fine to medium grained, dark brown, heterogenous and damp. Inclusions of rootlets.	TP08_0-0.2	No odour, staining or asbestos observed
		0,20		Fill	Gravelly Silty SAND, dense, medium grained sands to coarse gravels, brown, heterogenous and damp, angular.	TP08_0.3-0.4	No odour, staining or asbestos observed
	0,5						
		0,55		Fill	Asphaltic Roadbase GRAVELS, fine to medium gravels, black, heterogenous, angular.	TP08_0.55-0.6	No odour, staining or asbestos observed
		0,60		Fill	Gravelly SAND, dense, fine grained sands to coarse gravels, black, heterogenous and damp. No inclusions.	TP08_0.6-0.8	Black staining. No odour or asbestos observed
		0,85		Fill	Clayey SAND, medium dense, fine to medium grained, light brown, heterogenous and damp. Minor inclusions of coarse grained gravels.		
	1,0					TP08_1-1.1	No odour, staining or asbestos observed
		1,20		SW	SANDSTONE, medium grained, white, homogenous.	TP08_1.3-1.4	No odour, staining or asbestos observed
		1,40			Borehole TP08 terminated at 1.4m		
	1,5						
	2,0						
	2,5						
	3,0						

TP09

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 16/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 1.3
Bore Diameter (mm): 1200

Eastings (GDA 94): 333953.4282
Northings (GDA 94): 6251844.561
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Silty SAND (TOPSOIL), fine to medium grained, black, heterogenous. Inclusions of rootlets.	TP09_0-0.05	No odour, staining or asbestos observed
		0,05		Fill	Gravelly Silty SAND, medium dense, fine grained sands to cobbles, light brown, heterogenous, damp. Inclusions of rootlets.		
						TP09_0.2-0.3	No odour, staining or asbestos observed
		0,40		Fill	SANDSTONE paver.		
	0,5	0,45		Fill	Sandly SILT (Relic Topsoil), medium dense, fine grained to fine gravels, dark brown, heterogenous and damp. No inclusions.		
						TP09_0.7-0.8	No odour, staining or asbestos observed
	1,0						
		1,10		SG	Sand, medium dense, medium grained sands to fine gravels, light brownish red with white mottles, heterogenous and damp. Inclusions of fine Sandstone gravels.	TP09_1.1-1.2	No odour, staining or asbestos observed
		1,30			Borehole TP09 terminated at 1.3m		
	1,5						
	2,0						
	2,5						
	3,0						

TP10

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 16/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 2.75
Bore Diameter (mm): 1200

Eastings (GDA 94): 333977.3205
Northings (GDA 94): 6251829.691
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Silty SAND (TOPSOIL), loose to medium dense, fine grained, brown, heterogenous and damp.	TP10_0-0.1	No odour, staining or asbestos observed
		0,10		Fill	Sandy GRAVEL (Demolition Waste), fine grained to cobbles, multicoloured, heterogenous, angular. Inclusions of sandstone cobbles, brick, asphalt, slag and glass.	TP10_0.2-0.3	Odour from potential slag. No staining or asbestos
	0,5					TP10_0.5-0.6	Odour from potential slag. No staining or asbestos
	1,0					TP10_0.9-1	Odour from potential slag. No staining or asbestos
	1,5					TP10_1.5-1.6	Odour from potential slag. No staining or asbestos
	2,0					TP10_2-2.1	Odour from potential slag. No staining or asbestos
	2,5					TP10_2.5-2.6	Black staining. No odour or asbestos observed
		2,70		SP	SANDSTONE, dense, medium grained, buff white, homogenous.		
		2,75			Borehole TP10 terminated at 2.75m		
	3,0						

TP11

Project Number: 56262
Client: NSWSI
Project Name: Fort Street PS DSI
Site Address: Upper Fort Street, Observatory Hill Millers Point, NSW

Date: 16/07/2019
Logged By: RL
Contractor: Highland Const.
Total Hole Depth (mbgs): 2.7
Bore Diameter (mm): 1200

Eastings (GDA 94): 333964.6308
Northings (GDA 94): 6251819.479
Zone/Area/Permit#:
Reference Level: Ground Surface
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Test Pit				Fill	Silty SAND (TOPSOIL), medium dense, fine to medium grained, brown, heterogenous, damp. Inclusions of rootlets.	TP11_0-0.15	No odour, staining or asbestos observed
		0,15		Fill	Sandy Clayey GRAVELS, medium dense, medium grained sands to coarse gravels, grey, angular, heterogenous and damp. No inclusions.	TP11_0.2-0.5	No odour, staining or asbestos observed
	0,5	0,35		Fill	Silty SAND (Demolition Waste), medium dense, fine grained to cobbles, multicoloured, heterogenous and damp, inclusions of sub-angular brick.	TP11_0.6-0.7	No odour, staining or asbestos observed
		0,80		Fill	Gravelly Clayey SAND, medium dense, fine grained sands to fine gravels, light brown with red and white mottles, heterogenous and damp. No inclusions.		
	1,0					TP11_1-1.1	Asphaltic odour. No staining or asbestos observed
		1,35		Fill	Asphaltic Roadbase GRAVELS, fine to medium gravels, black, heterogenous, angular.		
		1,40		Fill	Gravelly Clayey SAND, medium dense, fine grained sands to fine gravels, black, heterogenous and damp. No inclusions.	TP11_1.4-1.5	Black staining potentially from above strata. No odour or asbestos observed
	1,5	1,55		Fill	Clayey SAND, medium dense, fine grained sands to coarse gravels, light brown, heterogenous and damp. Inclusions of trace coarse gravels.		
	2,0					TP11_2.1-2.2	No odour, staining or asbestos observed
		2,40		SW	SANDSTONE, dense, medium grained, white and mottled red, homogenous and damp.	TP11_2.4-2.5	No odour, staining or asbestos observed
	2,5						
		2,70			Borehole TP11 terminated at 2.7m		
	3,0						

Appendix H Detailed Laboratory Reports

Enviro Sample Vic

From: Ursula Long
Sent: Friday, 2 August 2019 11:29 AM
To: Enviro Sample Vic Transit; Enviro Sample Vic; Catherine Wilson
Subject: 1 DAY TAT ADDITIONAL: FW: Additional Analysis - 56262

Hi Melbounre,

1 day TAT additional please for the below samples that are in Melbourne.

- **TP4B 0.5-0.6 – heavy metals** - JI35080 (667580) — D.S 11/7 — Q414 | R817, 19
- **TP6B 0.5-0.6 – PAHs** - JI19268 (665759) — Q398
- **TP7A 0.4-0.5 – heavy metals, TRH, PAHs** - JI23608 (666306) — D.S 16/7 Q439
- **TP9 1.1-1.2 – heavy metals, TRHs, PAHs** - JI35071 (667579) — D.S 16/7 Q439-440

Please let me know if there is any issues at all.

Kind regards,

Ursula Long

Eurofins
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8420
Mobile: +61 428 845 495

Email : UrsulaLong@eurofins.com
Website: www.eurofins.com.au/environmental-testing

From: Claudia Bennett [mailto:cbennett@jbsg.com.au]
Sent: Friday, 2 August 2019 10:47 AM
To: Ursula Long
Cc: Daniel Denaro; Ryan Lill
Subject: Additional Analysis - 56262

EXTERNAL EMAIL*

Hey Ursula,

Can I please arrange for the following additional analysis for job 56262 on 24 hour TAT please?

- TP4B 0.5-0.6 – heavy metals - JI35080 (667580)
- TP6B 0.5-0.6 – PAHs - JI19268 (665759)
- TP7A 0.4-0.5 – heavy metals, TRH, PAHs - JI23608 (666306)
- TP9 1.1-1.2 – heavy metals, TRHs, PAHs - JI35071 (667579)

Thanks heaps,
Claudia

Jalpa Patel
2/8/19 10:47 AM
669214

Claudia Bennett | Environmental Consultant | JBS&G
Sydney | Melbourne | Adelaide | Perth | Brisbane | Canberra | Darwin | Wollongong | Bunbury
Level 1, 50 Margaret Street Sydney NSW 2000
T: 02 8245 0300 | M: 0403 351 446| E: cbennett@jbsg.com.au | W: www.jbsg.com.au
Contaminated Land | Groundwater Remediation | Environmental Approvals | Auditing and Compliance | Hygiene and Hazardous Materials | Due Diligence and Liability | Stakeholder and Risk Management

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Jalpa Patel

From: Catherine Wilson
Sent: Friday, 2 August 2019 1:02 PM
To: Jalpa Patel
Subject: FW: 1 DAY TAT ADDITIONAL: FW: Additional Analysis - 56262
Attachments: Microsoft Outlook - Memo Style.pdf

Regards,
Catherine Wilson

Eurofins | mgt
6 Monterey Rd
Dandenong South 3175
AUSTRALIA
Phone : +61 3 8564 5058

Email : CatherineWilson@eurofins.com
Website : http://environment.eurofins.com.au

From: Ursula Long
Sent: Friday, 2 August 2019 12:57 PM
To: Enviro Sample Vic Transit; Enviro Sample Vic; Catherine Wilson
Subject: RE: 1 DAY TAT ADDITIONAL: FW: Additional Analysis - 56262

Hi Jalpa,

The client has cancelled analysis for TP9 1.1-1.2.

Please include the attached email for the COC as well as the original email I sent previously.

Please let me know if any issues.

Kind regards,

Ursula Long

Jalpa Patel
2/8/19 12:57 pm
669214

Eurofins
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AUSTRALIA
Phone : +61 2 9900 8420
Mobile: +61 428 845 495

Email : UrsulaLong@eurofins.com
Website: www.eurofins.com.au/environmental-testing

From: Ursula Long
Sent: Friday, 2 August 2019 11:29 AM

eurofins | Environment Testing

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

Melbourne
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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
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NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 669214
Phone: 02 8245 0300
Fax:

Received: Aug 2, 2019 10:47 AM
Due: Aug 5, 2019
Priority: 1 Day
Contact Name: Claudia Bennett

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Polycyclic Aromatic Hydrocarbons	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	TP4B 0.5-0.6	Jul 11, 2019		Soil	M19-Au02197		X	X	
2	TP6B 0.5-0.6	Jul 11, 2019		Soil	M19-Au02198	X		X	
3	TP7A 0.4-0.5	Jul 11, 2019		Soil	M19-Au02199	X	X	X	X
Test Counts						2	2	3	1

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

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Claudia Bennett**

Report **669214-S**
Project name SIFS
Project ID 56262
Received Date Aug 02, 2019

Client Sample ID			**TP4B 0.5-0.6**	**TP6B 0.5-0.6**	**TP7A 0.4-0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M19-Au02197**	**M19-Au02198**	**M19-Au02199**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	< 50
TRH C10-C36 (Total)	50	mg/kg	-	-	< 50
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	-	< 0.5
TRH C6-C10	20	mg/kg	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	< 100
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	13	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	13	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	13	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	0.8	< 0.5
Anthracene	0.5	mg/kg	-	0.8	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	5.9	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	8.8	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	5.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	6.3	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	6.3	< 0.5
Chrysene	0.5	mg/kg	-	6.2	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	1.2	< 0.5
Fluoranthene	0.5	mg/kg	-	9.4	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	6.1	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	2.8	< 0.5
Pyrene	0.5	mg/kg	-	10	< 0.5
Total PAH*	0.5	mg/kg	-	70.1	< 0.5

Client Sample ID			TP4B 0.5-0.6	TP6B 0.5-0.6	TP7A 0.4-0.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M19-Au02197	M19-Au02198	M19-Au02199
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
2-Fluorobiphenyl (surr.)	1	%	-	69	64
p-Terphenyl-d14 (surr.)	1	%	-	59	64
Heavy Metals					
Arsenic	2	mg/kg	< 2	-	2.2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4
Chromium	5	mg/kg	16	-	8.6
Copper	5	mg/kg	< 5	-	7.0
Lead	5	mg/kg	9.0	-	21
Mercury	0.1	mg/kg	< 0.1	-	1.1
Nickel	5	mg/kg	< 5	-	< 5
Zinc	5	mg/kg	7.4	-	26
% Moisture	1	%	9.2	10	10

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Aug 02, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 02, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Aug 02, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Aug 02, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Aug 02, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Aug 02, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name:	JBS & G Australia (NSW) P/L	**Order No.:**		**Received:**	Aug 2, 2019 10:47 AM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	**Report #:**	669214	**Due:**	Aug 5, 2019
		Phone:	02 8245 0300	**Priority:**	1 Day
		Fax:		**Contact Name:**	Claudia Bennett
Project Name:	SIFS				
Project ID:	56262				

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						CANCELLED	Polycyclic Aromatic Hydrocarbons	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	TP4B 0.5-0.6	Jul 11, 2019		Soil	M19-Au02197			X	X	
2	TP6B 0.5-0.6	Jul 11, 2019		Soil	M19-Au02198		X		X	
3	TP7A 0.4-0.5	Jul 11, 2019		Soil	M19-Au02199		X	X	X	X
4	TP9 1.1-1.2	Jul 11, 2019		Soil	M19-Au02200	X				
Test Counts						1	2	2	3	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Cadmium	%	105			80-120	Pass	
Chromium	%	116			80-120	Pass	
Copper	%	113			80-120	Pass	
Lead	%	118			80-120	Pass	
Mercury	%	105			75-125	Pass	
Nickel	%	112			80-120	Pass	
Zinc	%	113			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M19-Au01434	NCP	mg/kg	8.7	9.4	7.0	30%	Pass	
Cadmium	M19-Au01434	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M19-Au01434	NCP	mg/kg	39	45	13	30%	Pass	
Copper	M19-Au01434	NCP	mg/kg	100	97	7.0	30%	Pass	
Lead	M19-Au01434	NCP	mg/kg	25	29	14	30%	Pass	
Mercury	M19-Au01434	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M19-Au01434	NCP	mg/kg	73	83	13	30%	Pass	
Zinc	M19-Au01434	NCP	mg/kg	74	83	11	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Au02124	NCP	%	14	14	6.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benz(a)anthracene	M19-Jl46414	NCP	mg/kg	< 0.5	< 2	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Enviro Sample Vic

From: Ursula Long
Sent: Wednesday, 24 July 2019 4:17 PM
To: Enviro Sample Vic Transit; Enviro Sample Vic; Catherine Wilson
Cc: Asim Khan
Subject: 3 DAY TAT ADDITIONAL: FW: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)
Attachments: Copy of Additional Samples Request.xlsx

Hi Melbourne,

Please see the attached Excel sheet for additional analysis on reports 665365, 665759 & 666306 – 3 day TAT including leachates.

Please log the additionals separately for each parent report and let me know once done.

Kind regards,

Ursula Long

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AUSTRALIA
Phone : +61 2 9900 8420
Mobile: +61 428 845 495

Email : UrsulaLong@eurofins.com
Website: www.eurofins.com.au/environmental-testing

667580
Addn REP
24/7/19, 4:17 pm

From: Daniel Denaro [mailto:DDenaro@jbsg.com.au]
Sent: Wednesday, 24 July 2019 3:25 PM
To: Asim Khan; Ursula Long
Cc: Ryan Lill
Subject: RE: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)

EXTERNAL EMAIL*

Hi Asim and Ursula,

I need to get a few more samples analysed based on the results in the lab report below and some others related to this project. I've attached a spreadsheet indicating what samples and analytes I need completed. Could you please log these on 3 day TAT?

The samples relate to laboratory reports:
665365
665759
666306

Let me know if there are any issues?

Thanks

D·S 11/07

	TRH	PAH	Lead	ASLP Lead	TCLP PAHs	TCLP HM	
TP2B 0.5-0.6	1	1					665365 J116001-H
TP4A 0.4-0.5		1					665365 J116004-
TP4B 0.5-0.6			1	1			665365 J116002-
TP5B 0.3-0.4	1	1	1	1			665365 J115999-
TP7A 2.4-2.5		1	1	1			666306
TP7B 2.1-2.2	1	1	1	1			666306
TP9 1.1-1.2		1	1	1			666306
TP1B_0.2-0.3					1		665365 J115944-444
TP02B_0.1-0.2					1		665365 J115956
TP4A_0.2-0.3					1		665365 J115963
TP5A_0.14-0.23					1		665365 J115951
TP7A_1.8-1.9					1		666306
TP4B_0.2-0.3						1	665365 J115959
TP5B_0.1-0.2						1	665365 J115953
TP6A_0.05-0.2						1	665759
TP7A_1.8-1.9						1	666306
TP7B_1.9-2.0						1	666306
TP9_0.7-0.8						1	666306

~~444~~

667580

Admi (EA)

24/7/19 4:17pm

	TRH	PAH	Lead	Nickel	Zinc	HM	ASLP Lead	TCLP PAHs	TCLP HM		
TP1A_0.3-0.38				1						665365 Jl15989	HOLD 1635
TP1B_0.2-0.3	1									665365 Jl15944	9414
TP2B 0.5-0.6	1	1									
TP4A 0.4-0.5		1									
TP4B_0.0-0.1			1		1					665365 Jl15958	9414
TP4B 0.5-0.6			1				1				
TP5B 0.3-0.4	1	1	1				1			D Denaro	
TP7A 2.4-2.5		1	1				1			R Lill	
TP7B 2.1-2.2	1	1	1				1				
TP9 1.1-1.2		1	1				1				
TP10_0.0-0.1							1			666306 Jl23616	

TP1B_0.2-0.3								1			
TP02B_0.1-0.2								1			
TP4A_0.2-0.3								1			
TP5A_0.14-0.23								1			
TP7A_1.8-1.9								1			
TP4B_0.2-0.3									1		
TP5B_0.1-0.2									1		
TP6A_0.05-0.2									1		
TP7A_1.8-1.9									1		
TP7B_1.9-2.0									1		
TP9_0.7-0.8									1		

#667580

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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667580
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Daniel Denaro

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	TP2B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35078				X				X	X
2	TP4A 0.4-0.5	Jul 11, 2019		Soil	M19-Jl35079				X				X	
3	TP4B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35080	X							X	
4	TP5B 0.3-0.4	Jul 11, 2019		Soil	M19-Jl35081	X			X				X	X
5	TP4B 0.5-0.6	Jul 11, 2019		AUS Leachate	M19-Jl35082	X				X				
6	TP5B 0.3-0.4	Jul 11, 2019		AUS Leachate	M19-Jl35083	X				X				
7	TP02B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35084				X		X			
8	TP4A_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35085				X		X			
9	TP5A_0.14-0.23	Jul 11, 2019		US Leachate	M19-Jl35086				X		X			

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Received: Jul 24, 2019 4:17 PM
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Priority: 3 Day
Contact Name: Daniel Denaro

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	TP4B_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35087						X	X		
11	TP5B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35088						X	X		
12	TP1B 0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35124				X		X			
13	TP1A_0.3-0.38	Jul 11, 2019		Soil	M19-Jl36986		X						X	
14	TP1B_0.2-0.3	Jul 11, 2019		Soil	M19-Jl36987								X	X
15	TP4B_0.0-0.1	Jul 11, 2019		Soil	M19-Jl36988	X		X					X	
Test Counts						5	1	1	7	2	6	2	7	3

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

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Daniel Denaro**

Report **667580-L**
Project name SIFS
Project ID 56262
Received Date Jul 24, 2019

Client Sample ID			**TP4B 0.5-0.6**	**TP5B 0.3-0.4**	**TP02B_0.1-0.2**	**TP4A_0.2-0.3**
Sample Matrix			**AUS Leachate**	**AUS Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**M19-Jl35082**	**M19-Jl35083**	**M19-Jl35084**	**M19-Jl35085**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	-	-	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	-	-	< 0.001	< 0.001
Anthracene	0.001	mg/L	-	-	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	-	-	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	-	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	-	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	-	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	-	< 0.001	< 0.001
Chrysene	0.001	mg/L	-	-	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	-	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	-	-	< 0.001	< 0.001
Fluorene	0.001	mg/L	-	-	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	-	< 0.001	< 0.001
Naphthalene	0.001	mg/L	-	-	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	-	-	0.002	< 0.001
Pyrene	0.001	mg/L	-	-	< 0.001	< 0.001
Total PAH*	0.001	mg/L	-	-	0.002	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	-	83	88
p-Terphenyl-d14 (surr.)	1	%	-	-	56	55
Heavy Metals						
Lead	0.01	mg/L	0.02	0.32	-	-
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	-	-
pH (initial)	0.1	pH Units	6.6	7.0	-	-
pH (Leachate fluid)	0.1	pH Units	5.1	5.1	-	-
pH (off)	0.1	pH Units	5.0	5.0	-	-
USA Leaching Procedure						
Leachate Fluid[C01]		comment	-	-	1.0	1.0
pH (initial)	0.1	pH Units	-	-	8.3	8.6
pH (Leachate fluid)	0.1	pH Units	-	-	5.1	5.1
pH (off)	0.1	pH Units	-	-	5.3	5.8
pH (USA HCl addition)	0.1	pH Units	-	-	1.6	1.6

Client Sample ID			TP5A_0.14-0.23	TP4B_0.2-0.3	TP5B_0.1-0.2	TP1B 0.2-0.3
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			M19-JI35086	M19-JI35087	M19-JI35088	M19-JI35124
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	-	-	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	-	-	< 0.001
Anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-	< 0.001
Chrysene	0.001	mg/L	< 0.001	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	-	-	< 0.001
Fluorene	0.001	mg/L	< 0.001	-	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Naphthalene	0.001	mg/L	< 0.001	-	-	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	-	-	0.001
Pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Total PAH*	0.001	mg/L	< 0.001	-	-	0.001
2-Fluorobiphenyl (surr.)	1	%	95	-	-	59
p-Terphenyl-d14 (surr.)	1	%	66	-	-	66
Heavy Metals						
Arsenic	0.01	mg/L	-	< 0.01	< 0.01	-
Cadmium	0.005	mg/L	-	< 0.005	< 0.005	-
Chromium	0.01	mg/L	-	< 0.01	< 0.01	-
Copper	0.01	mg/L	-	< 0.01	< 0.01	-
Lead	0.01	mg/L	-	0.22	0.47	-
Mercury	0.001	mg/L	-	< 0.001	< 0.001	-
Nickel	0.01	mg/L	-	< 0.01	< 0.01	-
Zinc	0.01	mg/L	-	6.4	2.2	-
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.8	8.6	8.6	8.6
pH (Leachate fluid)	0.1	pH Units	5.1	5.1	5.1	5.1
pH (off)	0.1	pH Units	5.0	5.1	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.6	1.7	1.7	1.6

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 25, 2019	7 Days
- Method:			
Metals M8	Melbourne	Jul 26, 2019	180 Days
- Method:			
Heavy Metals	Melbourne	Jul 24, 2019	180 Days
- Method:			
AUS Leaching Procedure			
pH (initial)	Melbourne	Jul 24, 2019	0 Days
- Method:			
pH (Leachate fluid)	Melbourne	Jul 24, 2019	0 Days
- Method:			
pH (off)	Melbourne	Jul 24, 2019	0 Days
- Method:			

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

Perth
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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667580
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Daniel Denaro

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	TP2B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35078				X				X	X
2	TP4A 0.4-0.5	Jul 11, 2019		Soil	M19-Jl35079				X				X	
3	TP4B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35080	X							X	
4	TP5B 0.3-0.4	Jul 11, 2019		Soil	M19-Jl35081	X			X				X	X
5	TP4B 0.5-0.6	Jul 11, 2019		AUS Leachate	M19-Jl35082	X				X				
6	TP5B 0.3-0.4	Jul 11, 2019		AUS Leachate	M19-Jl35083	X				X				
7	TP02B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35084				X		X			
8	TP4A_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35085				X		X			
9	TP5A_0.14-0.23	Jul 11, 2019		US Leachate	M19-Jl35086				X		X			

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Sample Detail						Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	TP4B_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35087						X	X		
11	TP5B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35088						X	X		
12	TP1B 0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35124				X		X			
13	TP1A_0.3-0.38	Jul 11, 2019		Soil	M19-Jl36986		X						X	
14	TP1B_0.2-0.3	Jul 11, 2019		Soil	M19-Jl36987								X	X
15	TP4B_0.0-0.1	Jul 11, 2019		Soil	M19-Jl36988	X		X					X	
Test Counts						5	1	1	7	2	6	2	7	3

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.01			0.01	Pass	
Cadmium			mg/L	< 0.005			0.005	Pass	
Chromium			mg/L	< 0.01			0.01	Pass	
Copper			mg/L	< 0.01			0.01	Pass	
Lead			mg/L	< 0.01			0.01	Pass	
Mercury			mg/L	< 0.001			0.001	Pass	
Nickel			mg/L	< 0.01			0.01	Pass	
Zinc			mg/L	< 0.01			0.01	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M19-Jl35072	NCP	%	105			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Jl37647	NCP	%	73			70-130	Pass	
Acenaphthylene	M19-Jl37647	NCP	%	87			70-130	Pass	
Anthracene	M19-Jl37647	NCP	%	103			70-130	Pass	
Benz(a)anthracene	M19-Jl37647	NCP	%	83			70-130	Pass	
Benzo(a)pyrene	M19-Jl37647	NCP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M19-Jl37647	NCP	%	101			70-130	Pass	
Benzo(g.h.i)perylene	M19-Jl37647	NCP	%	96			70-130	Pass	
Benzo(k)fluoranthene	M19-Jl37647	NCP	%	99			70-130	Pass	
Chrysene	M19-Jl37647	NCP	%	90			70-130	Pass	
Dibenz(a.h)anthracene	M19-Jl37647	NCP	%	86			70-130	Pass	
Fluoranthene	M19-Jl37647	NCP	%	85			70-130	Pass	
Fluorene	M19-Jl37647	NCP	%	71			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl37647	NCP	%	120			70-130	Pass	
Naphthalene	M19-Jl37647	NCP	%	99			70-130	Pass	
Phenanthrene	M19-Jl37647	NCP	%	102			70-130	Pass	
Pyrene	M19-Jl37647	NCP	%	83			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M19-Jl35072	NCP	mg/L	0.15	0.14	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Daniel Denaro**

Report **667580-S**
Project name SIFS
Project ID 56262
Received Date Jul 24, 2019

Client Sample ID			**TP2B 0.5-0.6**	**TP4A 0.4-0.5**	**TP4B 0.5-0.6**	**TP5B 0.3-0.4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M19-JI35078**	**M19-JI35079**	**M19-JI35080**	**M19-JI35081**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	-	< 20
TRH C10-C14	20	mg/kg	< 20	-	-	< 20
TRH C15-C28	50	mg/kg	120	-	-	< 50
TRH C29-C36	50	mg/kg	51	-	-	< 50
TRH C10-36 (Total)	50	mg/kg	171	-	-	< 50
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-	< 20
TRH >C10-C16	50	mg/kg	< 50	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-	< 50
TRH >C16-C34	100	mg/kg	150	-	-	< 100
TRH >C34-C40	100	mg/kg	< 100	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	150	-	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	7.2	< 0.5	-	1.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	7.2	0.6	-	1.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.2	1.2	-	1.6
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	0.7	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	1.3	< 0.5	-	0.7
Benz(a)anthracene	0.5	mg/kg	4.2	< 0.5	-	0.6
Benzo(a)pyrene	0.5	mg/kg	4.7	< 0.5	-	0.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.9	< 0.5	-	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	2.6	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	3.8	< 0.5	-	0.8
Chrysene	0.5	mg/kg	4.5	< 0.5	-	0.8
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	8.5	< 0.5	-	1.3
Fluorene	0.5	mg/kg	0.6	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.9	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	3.3	< 0.5	-	0.7
Pyrene	0.5	mg/kg	8.9	< 0.5	-	1.3
Total PAH*	0.5	mg/kg	49	< 0.5	-	7.6

Client Sample ID			TP2B 0.5-0.6	TP4A 0.4-0.5	TP4B 0.5-0.6	TP5B 0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M19-JI35078	M19-JI35079	M19-JI35080	M19-JI35081
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	120	98	-	93
p-Terphenyl-d14 (surr.)	1	%	127	91	-	80
Heavy Metals						
Lead	5	mg/kg	-	-	8.3	190
% Moisture	1	%	12	12	9.2	13

Client Sample ID			TP1A_0.3-0.38	TP1B_0.2-0.3	TP4B_0.0-0.1
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M19-JI36986	M19-JI36987	M19-JI36988
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	-	< 20	-
TRH C10-C14	20	mg/kg	-	53	-
TRH C15-C28	50	mg/kg	-	6000	-
TRH C29-C36	50	mg/kg	-	1900	-
TRH C10-36 (Total)	50	mg/kg	-	7953	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	3.0	-
TRH C6-C10	20	mg/kg	-	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-
TRH >C10-C16	50	mg/kg	-	270	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	267	-
TRH >C16-C34	100	mg/kg	-	6800	-
TRH >C34-C40	100	mg/kg	-	620	-
TRH >C10-C40 (total)*	100	mg/kg	-	7690	-
Heavy Metals					
Lead	5	mg/kg	-	-	91
Nickel	5	mg/kg	25	-	-
Zinc	5	mg/kg	-	-	140
% Moisture	1	%	4.2	1.7	13

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 25, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 25, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 25, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 24, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Jul 25, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jul 25, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667580
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Daniel Denaro

Eurofins Analytical Services Manager : Ursula Long

Sample Detail	Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	TP2B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35078				X				X	X
2	TP4A 0.4-0.5	Jul 11, 2019		Soil	M19-Jl35079				X				X	
3	TP4B 0.5-0.6	Jul 11, 2019		Soil	M19-Jl35080	X							X	
4	TP5B 0.3-0.4	Jul 11, 2019		Soil	M19-Jl35081	X			X				X	X
5	TP4B 0.5-0.6	Jul 11, 2019		AUS Leachate	M19-Jl35082	X				X				
6	TP5B 0.3-0.4	Jul 11, 2019		AUS Leachate	M19-Jl35083	X				X				
7	TP02B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35084				X		X			
8	TP4A_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35085				X		X			
9	TP5A_0.14-0.23	Jul 11, 2019		US Leachate	M19-Jl35086				X		X			

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Sample Detail						Lead	Nickel	Zinc	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	TP4B_0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35087						X	X		
11	TP5B_0.1-0.2	Jul 11, 2019		US Leachate	M19-Jl35088						X	X		
12	TP1B 0.2-0.3	Jul 11, 2019		US Leachate	M19-Jl35124				X		X			
13	TP1A_0.3-0.38	Jul 11, 2019		Soil	M19-Jl36986		X						X	
14	TP1B_0.2-0.3	Jul 11, 2019		Soil	M19-Jl36987								X	X
15	TP4B_0.0-0.1	Jul 11, 2019		Soil	M19-Jl36988	X		X					X	
Test Counts						5	1	1	7	2	6	2	7	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	102			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
TRH >C10-C16	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	103			70-130	Pass	
Benz(a)anthracene	%	109			70-130	Pass	
Benzo(a)pyrene	%	117			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	102			70-130	Pass	
Benzo(k)fluoranthene	%	128			70-130	Pass	
Chrysene	%	97			70-130	Pass	
Dibenz(a.h)anthracene	%	105			70-130	Pass	
Fluoranthene	%	119			70-130	Pass	
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	94			70-130	Pass	
Naphthalene	%	122			70-130	Pass	
Phenanthrene	%	107			70-130	Pass	
Pyrene	%	118			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	111			80-120	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	110			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B19-Jl34038	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	B19-Jl34038	NCP	%	88			70-130	Pass	
TRH C6-C10	B19-Jl34038	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	N19-Jl27270	NCP	%	85			70-130	Pass	
Acenaphthylene	N19-Jl27270	NCP	%	85			70-130	Pass	
Anthracene	N19-Jl27270	NCP	%	72			70-130	Pass	
Benz(a)anthracene	N19-Jl27270	NCP	%	82			70-130	Pass	
Benzo(a)pyrene	N19-Jl27270	NCP	%	89			70-130	Pass	
Benzo(b&j)fluoranthene	N19-Jl27270	NCP	%	85			70-130	Pass	
Benzo(g.h.i)perylene	N19-Jl27270	NCP	%	82			70-130	Pass	
Benzo(k)fluoranthene	N19-Jl27270	NCP	%	86			70-130	Pass	
Chrysene	N19-Jl27270	NCP	%	88			70-130	Pass	
Dibenz(a.h)anthracene	N19-Jl27270	NCP	%	83			70-130	Pass	
Fluoranthene	N19-Jl27270	NCP	%	91			70-130	Pass	
Fluorene	N19-Jl27270	NCP	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	N19-Jl27270	NCP	%	81			70-130	Pass	
Naphthalene	N19-Jl27270	NCP	%	85			70-130	Pass	
Phenanthrene	N19-Jl27270	NCP	%	84			70-130	Pass	
Pyrene	N19-Jl27270	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S19-Jl33369	NCP	%	114			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M19-Jl35081	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M19-Jl35081	CP	%	120			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Nickel	S19-Jl33369	NCP	%	101			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Zinc	M19-Jl36062	NCP	%	98			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M19-Jl35078	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-Jl35078	CP	mg/kg	120	57	68	30%	Fail	Q15
TRH C29-C36	M19-Jl35078	CP	mg/kg	51	< 50	52	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M19-Jl35078	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M19-Jl35078	CP	mg/kg	150	< 100	65	30%	Fail	Q15
TRH >C34-C40	M19-Jl35078	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-Jl35206	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Jl35033	NCP	%	9.4	9.4	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S19-Jl33368	NCP	mg/kg	45	38	18	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M19-Jl35081	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M19-Jl35081	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M19-Jl35081	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	S19-Jl33368	NCP	mg/kg	10	11	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Zinc	M19-Jl38177	NCP	mg/kg	1900	1900	2.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Enviro Sample Vic

From: Ursula Long
Sent: Wednesday, 24 July 2019 4:17 PM
To: Enviro Sample Vic Transit; Enviro Sample Vic; Catherine Wilson
Cc: Asim Khan
Subject: 3 DAY TAT ADDITIONAL: FW: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)
Attachments: Copy of Additional Samples Request.xlsx

Hi Melbourne,

Please see the attached Excel sheet for additional analysis on reports 665365, 665759 & 666306 - 3 day TAT including leachates.

Please log the additionals separately for each parent report and let me know once done.

Kind regards,

Ursula Long

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AUSTRALIA
Phone : +61 2 9900 8420
Mobile: +61 428 845 495

Email : UrsulaLong@eurofins.com
Website: www.eurofins.com.au/environmental-testing

From: Daniel Denaro [mailto:DDenaro@jbsg.com.au]
Sent: Wednesday, 24 July 2019 3:25 PM
To: Asim Khan; Ursula Long
Cc: Ryan Lill
Subject: RE: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)

EXTERNAL EMAIL*

Hi Asim and Ursula,

I need to get a few more samples analysed based on the results in the lab report below and some others related to this project. I've attached a spreadsheet indicating what samples and analytes I need completed. Could you please log these on 3 day TAT?

The samples relate to laboratory reports:
665365
665759
666306

Let me know if there are any issues?

Thanks

Mollie Reeve
24-7-19
4:17pm
665759

D.S 16/07

	TRH	PAH	Lead	ASLP Lead	TCLP PAHs	TCLP HM		
TP2B 0.5-0.6	1	1					665365	
TP4A 0.4-0.5		1					665365	
TP4B 0.5-0.6			1	1			665365	
TP5B 0.3-0.4	1	1	1	1			665365	
TP7A 2.4-2.5		1	1	1			666306	J123626-H
TP7B 2.1-2.2	1	1	1	1			666306	J123612
TP9 1.1-1.2		1	1	1			666306	J123602
TP1B_0.2-0.3					1		665365	
TP02B_0.1-0.2					1		665365	
TP4A_0.2-0.3					1		665365	
TP5A_0.14-0.23					1		665365	
TP7A_1.8-1.9					1		666306	J123609
TP4B_0.2-0.3						1	665365	
TP5B_0.1-0.2						1	665365	
TP6A_0.05-0.2						1	665759	
TP7A_1.8-1.9						1	666306	J123609
TP7B_1.9-2.0						1	666306	J123611
TP9_0.7-0.8						1	666306	J123601

4439-4440

Mollie Reeve
24-7-19
4:17pm
667579

	TRH	PAH	Lead	Nickel	Zinc	HM	ASLP Lead	TCLP PAHs	TCLP HM
TP1A_0.3-0.38				1					
TP1B_0.2-0.3	1								
TP2B 0.5-0.6	1	1							
TP4A 0.4-0.5		1							
TP4B_0.0-0.1			1		1				
TP4B 0.5-0.6			1				1		
TP5B 0.3-0.4	1	1	1				1		
TP7A 2.4-2.5		1	1				1		
TP7B 2.1-2.2	1	1	1				1		
TP9 1.1-1.2		1	1				1		
TP10_0.0-0.1									

TP1B_0.2-0.3								1	
TP02B_0.1-0.2								1	
TP4A_0.2-0.3								1	
TP5A_0.14-0.23								1	
TP7A_1.8-1.9									1
TP4B_0.2-0.3									1
TP5B_0.1-0.2									1
TP6A_0.05-0.2									1
TP7A_1.8-1.9									1
TP7B_1.9-2.0									1
TP9_0.7-0.8									

665365 Jl15989 ~~#0~~
665365 Jl15944

665365 Jl15958

D Denaro
R Lill

666306 Jl23616 HOLD 1655

#667597

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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667579
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Ryan Lill

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	TP7A 2.4-2.5	Jul 16, 2019		Soil	M19-Jl35069	X	X				X	
2	TP7B 2.1-2.2	Jul 16, 2019		Soil	M19-Jl35070	X	X				X	X
3	TP9 1.1-1.2	Jul 16, 2019		Soil	M19-Jl35071	X	X				X	
4	TP7A 2.4-2.5	Jul 16, 2019		AUS Leachate	M19-Jl35072	X		X				
5	TP7B 2.1-2.2	Jul 16, 2019		AUS Leachate	M19-Jl35073	X		X				
6	TP9 1.1-1.2	Jul 16, 2019		AUS Leachate	M19-Jl35074	X		X				
7	TP7A_1.8-1.9	Jul 16, 2019		US Leachate	M19-Jl35075		X		X	X		
8	TP7B_1.9-2.0	Jul 16, 2019		US Leachate	M19-Jl35076				X	X		
9	TP9_0.7-0.8	Jul 16, 2019		US Leachate	M19-Jl35077				X	X		

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Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	TP10_0.0-0.1	Jul 16, 2019		AUS Leachate	M19-Jl37013	X		X				
Test Counts						7	4	4	3	3	3	1

JBS & G Australia (NSW) P/L
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Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Ryan Lill**

Report **667579-L**
Project name SIFS
Project ID 56262
Received Date Jul 24, 2019

Client Sample ID			**TP7A 2.4-2.5**	**TP7B 2.1-2.2**	**TP9 1.1-1.2**	**TP7A_1.8-1.9**
Sample Matrix			**AUS Leachate**	**AUS Leachate**	**AUS Leachate**	**US Leachate**
Eurofins Sample No.			**M19-Jl35072**	**M19-Jl35073**	**M19-Jl35074**	**M19-Jl35075**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	-	-	-	< 0.001
Acenaphthylene	0.001	mg/L	-	-	-	< 0.001
Anthracene	0.001	mg/L	-	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	-	-	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	-	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	-	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	-	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	-	-	< 0.001
Chrysene	0.001	mg/L	-	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	-	-	< 0.001
Fluoranthene	0.001	mg/L	-	-	-	< 0.001
Fluorene	0.001	mg/L	-	-	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	-	-	< 0.001
Naphthalene	0.001	mg/L	-	-	-	< 0.001
Phenanthrene	0.001	mg/L	-	-	-	< 0.001
Pyrene	0.001	mg/L	-	-	-	< 0.001
Total PAH*	0.001	mg/L	-	-	-	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	-	-	60
p-Terphenyl-d14 (surr.)	1	%	-	-	-	72
Heavy Metals						
Arsenic	0.01	mg/L	-	-	-	< 0.01
Cadmium	0.005	mg/L	-	-	-	< 0.005
Chromium	0.01	mg/L	-	-	-	< 0.01
Copper	0.01	mg/L	-	-	-	< 0.01
Lead	0.01	mg/L	0.15	< 0.01	0.02	0.69
Mercury	0.001	mg/L	-	-	-	< 0.001
Nickel	0.01	mg/L	-	-	-	< 0.01
Zinc	0.01	mg/L	-	-	-	1.1
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	-
pH (initial)	0.1	pH Units	5.7	5.7	5.8	-
pH (Leachate fluid)	0.1	pH Units	5.1	5.1	5.1	-
pH (off)	0.1	pH Units	5.0	5.0	5.0	-

Client Sample ID			TP7A 2.4-2.5	TP7B 2.1-2.2	TP9 1.1-1.2	TP7A_1.8-1.9
Sample Matrix			AUS Leachate	AUS Leachate	AUS Leachate	US Leachate
Eurofins Sample No.			M19-JI35072	M19-JI35073	M19-JI35074	M19-JI35075
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit				
USA Leaching Procedure						
Leachate Fluid[C01]		comment	-	-	-	1.0
pH (initial)	0.1	pH Units	-	-	-	5.7
pH (Leachate fluid)	0.1	pH Units	-	-	-	5.1
pH (off)	0.1	pH Units	-	-	-	5.0
pH (USA HCl addition)	0.1	pH Units	-	-	-	1.7

Client Sample ID			TP7B_1.9-2.0	TP9_0.7-0.8	TP10_0.0-0.1
Sample Matrix			US Leachate	US Leachate	AUS Leachate
Eurofins Sample No.			M19-JI35076	M19-JI35077	M19-JI37013
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	0.01	mg/L	< 0.01	< 0.01	-
Cadmium	0.005	mg/L	< 0.005	< 0.005	-
Chromium	0.01	mg/L	< 0.01	< 0.01	-
Copper	0.01	mg/L	0.02	0.05	-
Lead	0.01	mg/L	0.17	0.62	0.13
Mercury	0.001	mg/L	< 0.001	0.001	-
Nickel	0.01	mg/L	< 0.01	0.02	-
Zinc	0.01	mg/L	1.7	3.0	-
AUS Leaching Procedure					
Leachate Fluid[C01]		comment	-	-	1.0
pH (initial)	0.1	pH Units	-	-	9.0
pH (Leachate fluid)	0.1	pH Units	-	-	5.1
pH (off)	0.1	pH Units	-	-	5.2
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	-
pH (initial)	0.1	pH Units	5.8	6.4	-
pH (Leachate fluid)	0.1	pH Units	5.1	5.1	-
pH (off)	0.1	pH Units	5.1	5.0	-
pH (USA HCl addition)	0.1	pH Units	1.8	1.8	-

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 25, 2019	7 Days
- Method:			
Metals M8	Melbourne	Jul 24, 2019	180 Days
- Method:			
Heavy Metals	Melbourne	Jul 25, 2019	180 Days
- Method:			
AUS Leaching Procedure			
pH (initial)	Melbourne	Jul 26, 2019	0 Days
- Method:			
pH (Leachate fluid)	Melbourne	Jul 26, 2019	0 Days
- Method:			
pH (off)	Melbourne	Jul 26, 2019	0 Days
- Method:			

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667579
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	TP7A 2.4-2.5	Jul 16, 2019		Soil	M19-Jl35069	X	X				X	
2	TP7B 2.1-2.2	Jul 16, 2019		Soil	M19-Jl35070	X	X				X	X
3	TP9 1.1-1.2	Jul 16, 2019		Soil	M19-Jl35071	X	X				X	
4	TP7A 2.4-2.5	Jul 16, 2019		AUS Leachate	M19-Jl35072	X		X				
5	TP7B 2.1-2.2	Jul 16, 2019		AUS Leachate	M19-Jl35073	X		X				
6	TP9 1.1-1.2	Jul 16, 2019		AUS Leachate	M19-Jl35074	X		X				
7	TP7A_1.8-1.9	Jul 16, 2019		US Leachate	M19-Jl35075		X		X	X		
8	TP7B_1.9-2.0	Jul 16, 2019		US Leachate	M19-Jl35076				X	X		
9	TP9_0.7-0.8	Jul 16, 2019		US Leachate	M19-Jl35077				X	X		

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Received: Jul 24, 2019 4:17 PM
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Contact Name: Ryan Lill

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Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	TP10_0.0-0.1	Jul 16, 2019		AUS Leachate	M19-Jl37013	X		X				
Test Counts						7	4	4	3	3	3	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.01			0.01	Pass	
Cadmium			mg/L	< 0.005			0.005	Pass	
Chromium			mg/L	< 0.01			0.01	Pass	
Copper			mg/L	< 0.01			0.01	Pass	
Lead			mg/L	< 0.01			0.01	Pass	
Mercury			mg/L	< 0.001			0.001	Pass	
Nickel			mg/L	< 0.01			0.01	Pass	
Zinc			mg/L	< 0.01			0.01	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M19-Jl35072	CP	%	105			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Jl37647	NCP	%	73			70-130	Pass	
Acenaphthylene	M19-Jl37647	NCP	%	87			70-130	Pass	
Anthracene	M19-Jl37647	NCP	%	103			70-130	Pass	
Benz(a)anthracene	M19-Jl37647	NCP	%	83			70-130	Pass	
Benzo(a)pyrene	M19-Jl37647	NCP	%	78			70-130	Pass	
Benzo(b&j)fluoranthene	M19-Jl37647	NCP	%	101			70-130	Pass	
Benzo(g.h.i)perylene	M19-Jl37647	NCP	%	96			70-130	Pass	
Benzo(k)fluoranthene	M19-Jl37647	NCP	%	99			70-130	Pass	
Chrysene	M19-Jl37647	NCP	%	90			70-130	Pass	
Dibenz(a.h)anthracene	M19-Jl37647	NCP	%	86			70-130	Pass	
Fluoranthene	M19-Jl37647	NCP	%	85			70-130	Pass	
Fluorene	M19-Jl37647	NCP	%	71			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl37647	NCP	%	120			70-130	Pass	
Naphthalene	M19-Jl37647	NCP	%	99			70-130	Pass	
Phenanthrene	M19-Jl37647	NCP	%	102			70-130	Pass	
Pyrene	M19-Jl37647	NCP	%	83			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M19-Jl35072	CP	mg/L	0.15	0.14	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M19-Jl37646	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Ryan Lill**

Report **667579-S**
Project name SIFS
Project ID 56262
Received Date Jul 24, 2019

Client Sample ID			**TP7A 2.4-2.5**	**TP7B 2.1-2.2**	**TP9 1.1-1.2**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**M19-JI35069**	**M19-JI35070**	**M19-JI35071**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	-	< 20	-
TRH C10-C14	20	mg/kg	-	< 20	-
TRH C15-C28	50	mg/kg	-	< 50	-
TRH C29-C36	50	mg/kg	-	< 50	-
TRH C10-36 (Total)	50	mg/kg	-	< 50	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	-
TRH C6-C10	20	mg/kg	-	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-
TRH >C10-C16	50	mg/kg	-	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	-
TRH >C16-C34	100	mg/kg	-	< 100	-
TRH >C34-C40	100	mg/kg	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	3.0	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.3	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.5	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	2.0	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	2.4	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.3	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	0.9	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	1.9	< 0.5	< 0.5
Chrysene	0.5	mg/kg	2.2	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	3.2	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.8	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	4.3	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	19	< 0.5	< 0.5

Client Sample ID			TP7A 2.4-2.5	TP7B 2.1-2.2	TP9 1.1-1.2
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M19-JI35069	M19-JI35070	M19-JI35071
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
2-Fluorobiphenyl (surr.)	1	%	93	86	87
p-Terphenyl-d14 (surr.)	1	%	88	102	96
Heavy Metals					
Lead	5	mg/kg	9.1	6.7	16
% Moisture	1	%	9.8	12	13

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 24, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 24, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 24, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 24, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Melbourne	Jul 24, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jul 24, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 18217

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Perth
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Kewdale WA 6105
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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667579
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	TP7A 2.4-2.5	Jul 16, 2019		Soil	M19-Jl35069	X	X				X	
2	TP7B 2.1-2.2	Jul 16, 2019		Soil	M19-Jl35070	X	X				X	X
3	TP9 1.1-1.2	Jul 16, 2019		Soil	M19-Jl35071	X	X				X	
4	TP7A 2.4-2.5	Jul 16, 2019		AUS Leachate	M19-Jl35072	X		X				
5	TP7B 2.1-2.2	Jul 16, 2019		AUS Leachate	M19-Jl35073	X		X				
6	TP9 1.1-1.2	Jul 16, 2019		AUS Leachate	M19-Jl35074	X		X				
7	TP7A_1.8-1.9	Jul 16, 2019		US Leachate	M19-Jl35075		X		X	X		
8	TP7B_1.9-2.0	Jul 16, 2019		US Leachate	M19-Jl35076				X	X		
9	TP9_0.7-0.8	Jul 16, 2019		US Leachate	M19-Jl35077				X	X		

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Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
10	TP10_0.0-0.1	Jul 16, 2019		AUS Leachate	M19-Jl37013	X		X				
Test Counts						7	4	4	3	3	3	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

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

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	102			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
TRH >C10-C16	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	73			70-130	Pass	
Acenaphthylene	%	73			70-130	Pass	
Anthracene	%	76			70-130	Pass	
Benz(a)anthracene	%	70			70-130	Pass	
Benzo(a)pyrene	%	75			70-130	Pass	
Benzo(b&j)fluoranthene	%	72			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene			%	91			70-130	Pass	
Chrysene			%	70			70-130	Pass	
Dibenz(a.h)anthracene			%	79			70-130	Pass	
Fluoranthene			%	80			70-130	Pass	
Fluorene			%	73			70-130	Pass	
Indeno(1.2.3-cd)pyrene			%	75			70-130	Pass	
Naphthalene			%	75			70-130	Pass	
Phenanthrene			%	76			70-130	Pass	
Pyrene			%	76			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	102			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Jl29381	NCP	%	93			70-130	Pass	
Acenaphthylene	S19-Jl29381	NCP	%	95			70-130	Pass	
Anthracene	S19-Jl29381	NCP	%	87			70-130	Pass	
Benz(a)anthracene	S19-Jl29381	NCP	%	87			70-130	Pass	
Benzo(a)pyrene	S19-Jl29381	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Jl29381	NCP	%	88			70-130	Pass	
Benzo(g.h.i)perylene	S19-Jl29381	NCP	%	83			70-130	Pass	
Benzo(k)fluoranthene	S19-Jl29381	NCP	%	117			70-130	Pass	
Chrysene	S19-Jl29381	NCP	%	97			70-130	Pass	
Dibenz(a.h)anthracene	S19-Jl29381	NCP	%	84			70-130	Pass	
Fluoranthene	S19-Jl29381	NCP	%	100			70-130	Pass	
Fluorene	S19-Jl29381	NCP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Jl29381	NCP	%	96			70-130	Pass	
Naphthalene	S19-Jl29381	NCP	%	93			70-130	Pass	
Phenanthrene	S19-Jl29381	NCP	%	88			70-130	Pass	
Pyrene	S19-Jl29381	NCP	%	102			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S19-Jl29376	NCP	%	107			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B19-Jl34038	NCP	%	84			70-130	Pass	
TRH C10-C14	M19-Jl35081	NCP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	B19-Jl34038	NCP	%	88			70-130	Pass	
TRH C6-C10	B19-Jl34038	NCP	%	81			70-130	Pass	
TRH >C10-C16	M19-Jl35081	NCP	%	120			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-Jl30365	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S19-Jl29376	NCP	mg/kg	16	15	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Jl35033	NCP	%	9.4	9.4	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M19-Jl35081	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	N19-Jl29520	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	N19-Jl29520	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	N19-Jl29520	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M19-Jl35081	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M19-Jl35081	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	N19-Jl29520	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Enviro Sample Vic

From: Ursula Long
Sent: Wednesday, 24 July 2019 4:17 PM
To: Enviro Sample Vic Transit; Enviro Sample Vic; Catherine Wilson
Cc: Asim Khan
Subject: 3 DAY TAT ADDITIONAL: FW: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)
Attachments: Copy of Additional Samples Request.xlsx

Hi Melbourne,

Please see the attached Excel sheet for additional analysis on reports 665365, 665759 & 666306 – 3 day TAT including leachates.

Please log the additionals separately for each parent report and let me know once done.

Kind regards,

Ursula Long

Eurofins | mgt
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8420
Mobile: +61 428 845 495

Email : UrsulaLong@eurofins.com
Website: www.eurofins.com.au/environmental-testing

From: Daniel Denaro [mailto:DDenaro@jbsg.com.au]
Sent: Wednesday, 24 July 2019 3:25 PM
To: Asim Khan; Ursula Long
Cc: Ryan Lill
Subject: RE: Eurofins | mgt Draft Test Results - Report 666306 : Site SIFS (56262)

EXTERNAL EMAIL*

Hi Asim and Ursula,

I need to get a few more samples analysed based on the results in the lab report below and some others related to this project. I've attached a spreadsheet indicating what samples and analytes I need completed. Could you please log these on 3 day TAT?

The samples relate to laboratory reports:
665365
665759
666306

Let me know if there are any issues?

Thanks

Molly Reeve 24-7-19 4:17pm 667568

D.S

	TRH	PAH	Lead	ASLP Lead	TCLP PAHs	TCLP HM	
TP2B 0.5-0.6	1	1					665365
TP4A 0.4-0.5		1					665365
TP4B 0.5-0.6			1	1			665365
TP5B 0.3-0.4	1	1	1	1			665365
TP7A 2.4-2.5		1	1	1			666306
TP7B 2.1-2.2	1	1	1	1			666306
TP9 1.1-1.2		1	1	1			666306
TP1B_0.2-0.3					1		665365
TP02B_0.1-0.2					1		665365
TP4A_0.2-0.3					1		665365
TP5A_0.14-0.23					1		665365
TP7A_1.8-1.9					1		666306
TP4B_0.2-0.3						1	665365
TP5B_0.1-0.2						1	665365
TP6A_0.05-0.2						1	665759
TP7A_1.8-1.9						1	666306
TP7B_1.9-2.0						1	666306
TP9_0.7-0.8						1	666306

J119263

4398

Mollie Reece
24-7-19
4:17pm
667568

eurofins | Environment Testing

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Melbourne
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Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 667568
Phone: 02 8245 0300
Fax:

Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Ryan Lill

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						USA Leaching Procedure	Metals M8
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP6A_0.05-0.2	Not Provided		US Leachate	M19-Jl35003	X	X
Test Counts						1	1

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

NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Ryan Lill**

Report **667568-L**
Project name SIFS
Project ID 56262
Received Date Jul 24, 2019

Client Sample ID			**TP6A_0.05-0.2**
Sample Matrix			**US Leachate**
Eurofins Sample No.			**M19-Jl35003**
Date Sampled			**Not Provided**
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	0.01	mg/L	< 0.01
Cadmium	0.005	mg/L	0.007
Chromium	0.01	mg/L	< 0.01
Copper	0.01	mg/L	0.01
Lead	0.01	mg/L	0.96
Mercury	0.001	mg/L	< 0.001
Nickel	0.01	mg/L	0.01
Zinc	0.01	mg/L	8.0
USA Leaching Procedure			
Leachate Fluid[C01]		comment	1.0
pH (initial)	0.1	pH Units	6.9
pH (Leachate fluid)	0.1	pH Units	5.1
pH (off)	0.1	pH Units	6.1
pH (USA HCl addition)	0.1	pH Units	1.6

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Metals M8	Melbourne	Jul 24, 2019	180 Days

- Method:

eurofins | Environment Testing

ABN – 50 005 085 521
e.mail : EnviroSales@eurofins.com
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Melbourne
6 Monterey Road
Dandenong South VIC 3175
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Site # 1254 & 14271

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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

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Order No.:
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Phone: 02 8245 0300
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Received: Jul 24, 2019 4:17 PM
Due: Jul 29, 2019
Priority: 3 Day
Contact Name: Ryan Lill

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						USA Leaching Procedure	Metals M8
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP6A_0.05-0.2	Not Provided		US Leachate	M19-Jl35003	X	X
Test Counts						1	1

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.01			0.01	Pass	
Cadmium			mg/L	< 0.005			0.005	Pass	
Chromium			mg/L	< 0.01			0.01	Pass	
Copper			mg/L	< 0.01			0.01	Pass	
Lead			mg/L	< 0.01			0.01	Pass	
Mercury			mg/L	< 0.001			0.001	Pass	
Nickel			mg/L	< 0.01			0.01	Pass	
Zinc			mg/L	< 0.01			0.01	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M19-Jl35072	NCP	%	105			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M19-Jl35072	NCP	mg/L	0.15	0.14	3.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)



Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

018975

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 56262
PROJECT NAME: ~~SAP~~ SIFS
DATE NEEDED BY: STAT
LABORATORY BATCH NO.:
SAMPLERS:
QC LEVEL: NEPM (2013)
PHONE: Sydney: ~~02 8245 0300~~ | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) .....@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	TRH/BTEX	PAHs	Asbestos	CEC, pH, Cl	VOCs	OCPs	PCBs	TCLP	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP9_0.7-0.8	Soil	16/7/19		J+B		x	x	x	x		x	x	x				
1.1-1.2				✓						x							
TP10_0.0-0.1				J+B					x								
0.2-0.3									x								
0.5-0.6						x	x	x									
0.9-1.0																	
1.5-1.6																	
2.0-2.1						x	x	x									
2.5-2.6																	
TP11_0.0-0.15						x	x	x	x								
0.2-0.3																	
0.6-0.7									x								
1.0-1.1																	
1.4-1.5						x	x	x									
2.1-2.2																	
2.4-2.5				J													

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: Cleo D DATE: 16/07	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: MLIT 5:24 pm	COOLER TEMP ..... deg C 12.2 °C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE: 17/7	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

166306

018974

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 56262 | LABORATORY BATCH NO.:

PROJECT NAME: SIFS | SAMPLERS: RL

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

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

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	TRH/BTEX	PAHs	CEC, pH, Clay	Asbestos	VOCs	OCPs	PCBs	TCLP	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP7A_0.4-0.5	Soil	16/7/19		J+B						x							
1.4-1.45				J													
1.8-1.9				J+B		x	x	x									
2.4-2.5				J													
TP7B_0.0-0.2				J+B		x	x	x		x							
0.5-0.6				↓													
1.1-1.2																	
1.5-1.6																	
1.9-2.0						x	x	x									
2.1-2.2				J					x								
TP8_0.0-0.2				J+B		x	x	x		x							
0.3-0.4				↓													
0.55-0.6																	
0.6-0.8						x	x	x									
1.0-1.1																	
1.3-1.4				J													
TP9_0.0-0.05																	
0.2-0.3						x	x	x		x							
QC02						x	x	x		x							

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: Irina D DATE: 16/07	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Envirolab Services 5:21 PM	COOLER TEMP ..... deg C 12.2°C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

111306

Steven Borg

From: Enviro Sample Vic
Sent: Thursday, 18 July 2019 9:07 AM
To: Steven Borg
Subject: FW: Eurofins | mgt Sample Receipt Advice - Report 666306 : Site SIFS (56262)

From: Ryan Lill [mailto:rlill@jbsg.com.au]
Sent: Thursday, 18 July 2019 7:26 AM
To: Enviro Sample Vic
Cc: Daniel Denaro
Subject: Re: Eurofins | mgt Sample Receipt Advice - Report 666306 : Site SIFS (56262)

Hi,

Can the QC01 jar be relabelled QC02, and remove TP11_0.6-0.7 from COC.
TS and TB analysed for BTEX, and RIN03 analysed for HM, PAHs and TRH/BTEX.

Thank you!

Ryan

Get Outlook for Android

From: EnviroSampleVic@eurofins.com <EnviroSampleVic@eurofins.com>
Sent: Thursday, July 18, 2019 7:20:52 AM
To: Ryan Lill
Cc: Daniel Denaro
Subject: Eurofins | mgt Sample Receipt Advice - Report 666306 : Site SIFS (56262)

Dear Valued Client,

TP11 0.6-0.7 JAR AND QC02 MISSING. EXTRA SAMPLES QC01, TB, TS AND RIN03.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins | mgt Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Steven Borg
Sample Receipt

Eurofins | mgt
6 Monterey Road
Dandenong South 3175
AUSTRALIA

eurofins | mgt

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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
External Laboratory																			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	TP9_0.7-0.8	Jul 16, 2019		Soil	M19-Jl23601						X	X	X	X	X	X	X		X
2	TP9_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23602	X				X							X	X	
3	TP10_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23603						X			X	X		X		X
4	TP10_2.0-2.1	Jul 16, 2019		Soil	M19-Jl23604						X			X	X		X		X
5	TP11_0.0-0.15	Jul 16, 2019		Soil	M19-Jl23605						X			X	X		X		X
6	TP11_0.6-0.7	Jul 16, 2019		Soil	M19-Jl23606			X											
7	TP11_1.4-1.5	Jul 16, 2019		Soil	M19-Jl23607						X			X	X		X		X
8	TP07A_0.4-0.5	Jul 16, 2019		Soil	M19-Jl23608		X												
9	TP7A_1.8-1.9	Jul 16, 2019		Soil	M19-Jl23609						X			X	X		X		X

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Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
10	TP7B_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23610		X				X			X	X		X		X
11	TP7B_1.9-2.0	Jul 16, 2019		Soil	M19-Jl23611						X			X	X		X		X
12	TP7B_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23612	X				X							X	X	
13	TP8_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23613		X				X			X	X		X		X
14	TP8_0.6-0.8	Jul 16, 2019		Soil	M19-Jl23614						X			X	X		X		X
15	TP9_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23615		X				X			X	X		X		X
16	TP10_0.0-0.1	Jul 16, 2019		Soil	M19-Jl23616				X										
17	TP10_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23617				X										
18	TP10_0.9-1.0	Jul 16, 2019		Soil	M19-Jl23618				X										
19	TP10_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23619				X										
20	TP10_2.5-2.6	Jul 16, 2019		Soil	M19-Jl23620				X										
21	TP11_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23621				X										

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
22	TP11_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23622				X										
23	TP11_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23623				X										
24	TP11_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23624				X										
25	TP7A_1.4-1.45	Jul 16, 2019		Soil	M19-Jl23625				X										
26	TP7A_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23626				X										
27	TP7B_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23627				X										
28	TP7B_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23628				X										
29	TP7B_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23629				X										
30	TP8_0.3-0.4	Jul 16, 2019		Soil	M19-Jl23630				X										
31	TP8_0.55-0.6	Jul 16, 2019		Soil	M19-Jl23631				X										
32	TP8_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23632				X										
33	TP8_1.3-1.4	Jul 16, 2019		Soil	M19-Jl23633				X										

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NSW 2000

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Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
34	TP9_0.0-0.05	Jul 16, 2019		Soil	M19-Jl23634				X										
35	QC02	Jul 16, 2019		Soil	M19-Jl23635						X			X	X		X		X
36	TB	Jul 16, 2019		Water	M19-Jl23636										X				
37	TS	Jul 16, 2019		Water	M19-Jl23637										X				
38	RIN03	Jul 16, 2019		Water	M19-Jl23638						X			X	X				X
Test Counts						2	4	1	19	2	13	1	1	13	15	1	14	2	13

Certificate of Analysis

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

Attention:	Ryan Lill
Report	666306-AID
Project Name	SIFS
Project ID	56262
Received Date	Jul 16, 2019
Date Reported	Jul 23, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

DRAFT

DRAFT

Project Name	SIFS
Project ID	56262
Date Sampled	Jul 16, 2019
Report	666306-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
TP07A_0.4-0.5	19-Jl23608	Jul 16, 2019	Approximate Sample 738g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP7B_0.0-0.2	19-Jl23610	Jul 16, 2019	Approximate Sample 419g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP8_0.0-0.2	19-Jl23613	Jul 16, 2019	Approximate Sample 443g Sample consisted of: Brown fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP9_0.2-0.3	19-Jl23615	Jul 16, 2019	Approximate Sample 513g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jul 18, 2019	Indefinite

DRAFT

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Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
External Laboratory																			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	TP9_0.7-0.8	Jul 16, 2019		Soil	M19-Jl23601						X	X	X	X	X	X	X		X
2	TP9_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23602	X				X							X	X	
3	TP10_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23603						X			X	X		X		X
4	TP10_2.0-2.1	Jul 16, 2019		Soil	M19-Jl23604						X			X	X		X		X
5	TP11_0.0-0.15	Jul 16, 2019		Soil	M19-Jl23605						X			X	X		X		X
6	TP11_0.6-0.7	Jul 16, 2019		Soil	M19-Jl23606			X											
7	TP11_1.4-1.5	Jul 16, 2019		Soil	M19-Jl23607						X			X	X		X		X
8	TP07A_0.4-0.5	Jul 16, 2019		Soil	M19-Jl23608		X												
9	TP7A_1.8-1.9	Jul 16, 2019		Soil	M19-Jl23609						X			X	X		X		X

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
10	TP7B_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23610		X				X			X	X		X		X
11	TP7B_1.9-2.0	Jul 16, 2019		Soil	M19-Jl23611						X			X	X		X		X
12	TP7B_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23612	X				X							X	X	
13	TP8_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23613		X				X			X	X		X		X
14	TP8_0.6-0.8	Jul 16, 2019		Soil	M19-Jl23614						X			X	X		X		X
15	TP9_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23615		X				X			X	X		X		X
16	TP10_0.0-0.1	Jul 16, 2019		Soil	M19-Jl23616				X										
17	TP10_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23617				X										
18	TP10_0.9-1.0	Jul 16, 2019		Soil	M19-Jl23618				X										
19	TP10_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23619				X										
20	TP10_2.5-2.6	Jul 16, 2019		Soil	M19-Jl23620				X										
21	TP11_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23621				X										

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Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
22	TP11_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23622				X										
23	TP11_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23623				X										
24	TP11_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23624				X										
25	TP7A_1.4-1.45	Jul 16, 2019		Soil	M19-Jl23625				X										
26	TP7A_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23626				X										
27	TP7B_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23627				X										
28	TP7B_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23628				X										
29	TP7B_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23629				X										
30	TP8_0.3-0.4	Jul 16, 2019		Soil	M19-Jl23630				X										
31	TP8_0.55-0.6	Jul 16, 2019		Soil	M19-Jl23631				X										
32	TP8_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23632				X										
33	TP8_1.3-1.4	Jul 16, 2019		Soil	M19-Jl23633				X										

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Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
34	TP9_0.0-0.05	Jul 16, 2019		Soil	M19-Jl23634				X										
35	QC02	Jul 16, 2019		Soil	M19-Jl23635						X			X	X		X		X
36	TB	Jul 16, 2019		Water	M19-Jl23636										X				
37	TS	Jul 16, 2019		Water	M19-Jl23637										X				
38	RIN03	Jul 16, 2019		Water	M19-Jl23638						X			X	X				X
Test Counts						2	4	1	19	2	13	1	1	13	15	1	14	2	13

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

Units

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

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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Comments

M19-Jl23610, M19-Jl23613: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

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DRAFT

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

Attention: **Ryan Lill**

Report **666306-S**
Project name SIFS
Project ID 56262
Received Date Jul 16, 2019

Client Sample ID			TP9_0.7-0.8	TP9_1.1-1.2	TP10_0.5-0.6	TP10_2.0-2.1
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-Jl23601**	**M19-Jl23602**	**M19-Jl23603**	**M19-Jl23604**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	360	-	110	100
TRH C29-C36	50	mg/kg	200	-	270	180
TRH C10-36 (Total)	50	mg/kg	560	-	380	280
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	104	-	105	84
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	-
Allyl chloride	0.5	mg/kg	< 0.5	-	-	-

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Client Sample ID			TP9_0.7-0.8	TP9_1.1-1.2	TP10_0.5-0.6	TP10_2.0-2.1
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-Jl23601**	**M19-Jl23602**	**M19-Jl23603**	**M19-Jl23604**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit				
Volatile Organics						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Bromobenzene	0.5	mg/kg	< 0.5	-	-	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromoform	0.5	mg/kg	< 0.5	-	-	-
Bromomethane	0.5	mg/kg	< 0.5	-	-	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloroethane	0.5	mg/kg	< 0.5	-	-	-
Chloroform	0.5	mg/kg	< 0.5	-	-	-
Chloromethane	0.5	mg/kg	< 0.5	-	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Dibromomethane	0.5	mg/kg	< 0.5	-	-	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
Iodomethane	0.5	mg/kg	< 0.5	-	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Styrene	0.5	mg/kg	< 0.5	-	-	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Trichloroethene	0.5	mg/kg	< 0.5	-	-	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
Total MAH*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
4-Bromofluorobenzene (surr.)	1	%	104	-	-	-
Toluene-d8 (surr.)	1	%	82	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	490	-	300	240
TRH >C34-C40	100	mg/kg	< 100	-	180	150
TRH >C10-C40 (total)*	100	mg/kg	490	-	480	390

Client Sample ID			TP9_0.7-0.8	TP9_1.1-1.2	TP10_0.5-0.6	TP10_2.0-2.1
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-Jl23601**	**M19-Jl23602**	**M19-Jl23603**	**M19-Jl23604**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	8.3	-	4.1	3.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.3	-	4.1	3.5
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	8.3	-	4.1	3.5
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	0.7	-	0.5	< 0.5
Anthracene	0.5	mg/kg	1.0	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	5.1	-	1.6	1.6
Benzo(a)pyrene	0.5	mg/kg	5.5	-	2.6	2.1
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	3.8	-	1.8	2.4
Benzo(g.h.i)perylene	0.5	mg/kg	3.3	-	2.7	1.7
Benzo(k)fluoranthene	0.5	mg/kg	4.5	-	1.6	2.6
Chrysene	0.5	mg/kg	5.3	-	1.7	1.7
Dibenz(a.h)anthracene	0.5	mg/kg	1.0	-	0.8	0.6
Fluoranthene	0.5	mg/kg	9.8	-	2.2	4.0
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.8	-	1.8	1.2
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	4.8	-	0.5	1.9
Pyrene	0.5	mg/kg	10	-	2.5	3.7
Total PAH*	0.5	mg/kg	58.6	-	20.3	23.5
2-Fluorobiphenyl (surr.)	1	%	60	-	92	106
p-Terphenyl-d14 (surr.)	1	%	57	-	85	100
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	141	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	-	-	-

Client Sample ID			TP9_0.7-0.8	TP9_1.1-1.2	TP10_0.5-0.6	TP10_2.0-2.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M19-JI23601	M19-JI23602	M19-JI23603	M19-JI23604
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	141	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	-	-	-
% Clay	1	%	-	20	-	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	14	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	7.3	-	-
% Moisture	1	%	18	14	8.5	5.7
Heavy Metals						
Arsenic	2	mg/kg	8.1	-	5.4	< 2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	16	-	10	7.2
Copper	5	mg/kg	74	-	19	14
Lead	5	mg/kg	1100	-	110	90
Mercury	0.1	mg/kg	2.1	-	0.1	1.0
Nickel	5	mg/kg	9.7	-	6.0	< 5
Zinc	5	mg/kg	430	-	52	34
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	8.2	-	-

Client Sample ID			TP11_0.0-0.15	TP11_1.4-1.5	TP7A_1.8-1.9	TP7B_0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M19-JI23605	M19-JI23607	M19-JI23609	M19-JI23610
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	120	270	400	92
TRH C29-C36	50	mg/kg	240	130	250	120
TRH C10-36 (Total)	50	mg/kg	360	400	650	212
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	102	92	118	87

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Client Sample ID			TP11_0.0-0.15	TP11_1.4-1.5	TP7A_1.8-1.9	TP7B_0.0-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M19-Jl23605	M19-Jl23607	M19-Jl23609	M19-Jl23610
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	260	350	530	160
TRH >C34-C40	100	mg/kg	190	< 100	170	< 100
TRH >C10-C40 (total)*	100	mg/kg	450	350	700	160
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.7	8.8	10	0.9
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.7	8.8	10	1.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.7	8.8	10	1.4
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	0.7	0.8	< 0.5
Anthracene	0.5	mg/kg	< 0.5	1.7	2.3	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.3	5.1	6.3	0.6
Benzo(a)pyrene	0.5	mg/kg	1.5	5.5	6.8	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.0	6.8	4.2	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	1.0	3.1	3.9	0.6
Benzo(k)fluoranthene	0.5	mg/kg	2.1	4.5	5.2	0.6
Chrysene	0.5	mg/kg	1.5	5.4	6.2	0.7
Dibenz(a.h)anthracene	0.5	mg/kg	0.5	1.3	1.5	< 0.5
Fluoranthene	0.5	mg/kg	2.5	12	12	1.3
Fluorene	0.5	mg/kg	< 0.5	< 0.5	0.8	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.9	2.6	3.4	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
Phenanthrene	0.5	mg/kg	0.9	7.3	7.3	< 0.5
Pyrene	0.5	mg/kg	2.4	12	11	1.2
Total PAH*	0.5	mg/kg	16.6	68	72.2	6.3
2-Fluorobiphenyl (surr.)	1	%	121	107	85	100
p-Terphenyl-d14 (surr.)	1	%	145	99	72	89
% Moisture	1	%	9.8	11	12	8.3
Heavy Metals						
Arsenic	2	mg/kg	7.2	4.8	5.9	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10.0	13	18	7.7
Copper	5	mg/kg	37	52	36	18
Lead	5	mg/kg	230	270	470	120
Mercury	0.1	mg/kg	0.1	0.6	0.6	0.1
Nickel	5	mg/kg	10	< 5	< 5	< 5
Zinc	5	mg/kg	140	280	240	130

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Client Sample ID			TP7B_1.9-2.0	TP7B_2.1-2.2	TP8_0.0-0.2	TP8_0.6-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M19-Jl23611	M19-Jl23612	M19-Jl23613	M19-Jl23614
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	130	-	< 20	< 20
TRH C15-C28	50	mg/kg	1100	-	< 50	< 50
TRH C29-C36	50	mg/kg	370	-	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	1600	-	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	114	-	139	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	240	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	240	-	< 50	< 50
TRH >C16-C34	100	mg/kg	1200	-	< 100	< 100
TRH >C34-C40	100	mg/kg	210	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1650	-	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	25	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	25	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	25	-	1.2	1.2
Acenaphthene	0.5	mg/kg	3.1	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	9.3	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	16	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	21	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	16	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	10	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	7.8	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	13	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	18	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	3.6	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	36	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	18	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	6.9	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	7.9	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	41	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	30	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	257.6	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	95	-	80	108
p-Terphenyl-d14 (surr.)	1	%	90	-	71	96
% Clay	1	%	-	23	-	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	35	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	7.8	-	-
% Moisture	1	%	13	13	11	16

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Client Sample ID			TP7B_1.9-2.0	TP7B_2.1-2.2	TP8_0.0-0.2	TP8_0.6-0.8
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-JI23611**	**M19-JI23612**	**M19-JI23613**	**M19-JI23614**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.7	-	2.7	3.2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	9.8	-	6.8	9.0
Copper	5	mg/kg	39	-	13	34
Lead	5	mg/kg	520	-	86	120
Mercury	0.1	mg/kg	0.7	-	< 0.1	0.9
Nickel	5	mg/kg	< 5	-	5.3	< 5
Zinc	5	mg/kg	210	-	83	35
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	5.7	-	-

Client Sample ID			TP9_0.2-0.3	QC02
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-JI23615**	**M19-JI23635**
Date Sampled			**Jul 16, 2019**	**Jul 16, 2019**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	123	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			TP9_0.2-0.3	QC02
Sample Matrix			Soil	Soil
Eurofins | mgt Sample No.			M19-Jl23615	M19-Jl23635
Date Sampled			Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	71	66
p-Terphenyl-d14 (surr.)	1	%	73	69
% Moisture	1	%	8.4	8.2
Heavy Metals				
Arsenic	2	mg/kg	2.6	2.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	7.8	9.3
Copper	5	mg/kg	5.3	< 5
Lead	5	mg/kg	20	21
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5
Zinc	5	mg/kg	38	35

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 19, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 19, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 19, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 19, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Volatile Organics	Melbourne	Jul 19, 2019	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 19, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Jul 19, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Jul 19, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
% Clay	Brisbane	Jul 22, 2019	0 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Melbourne	Jul 19, 2019	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Metals M8	Melbourne	Jul 19, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Jul 19, 2019	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 22, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
External Laboratory																			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	TP9_0.7-0.8	Jul 16, 2019		Soil	M19-Jl23601						X	X	X	X	X	X	X		X
2	TP9_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23602	X				X							X	X	
3	TP10_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23603						X			X	X		X		X
4	TP10_2.0-2.1	Jul 16, 2019		Soil	M19-Jl23604						X			X	X		X		X
5	TP11_0.0-0.15	Jul 16, 2019		Soil	M19-Jl23605						X			X	X		X		X
6	TP11_0.6-0.7	Jul 16, 2019		Soil	M19-Jl23606			X											
7	TP11_1.4-1.5	Jul 16, 2019		Soil	M19-Jl23607						X			X	X		X		X
8	TP07A_0.4-0.5	Jul 16, 2019		Soil	M19-Jl23608		X												
9	TP7A_1.8-1.9	Jul 16, 2019		Soil	M19-Jl23609						X			X	X		X		X

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Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
10	TP7B_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23610		X				X			X	X		X		X
11	TP7B_1.9-2.0	Jul 16, 2019		Soil	M19-Jl23611						X			X	X		X		X
12	TP7B_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23612	X				X							X	X	
13	TP8_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23613		X				X			X	X		X		X
14	TP8_0.6-0.8	Jul 16, 2019		Soil	M19-Jl23614						X			X	X		X		X
15	TP9_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23615		X				X			X	X		X		X
16	TP10_0.0-0.1	Jul 16, 2019		Soil	M19-Jl23616				X										
17	TP10_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23617				X										
18	TP10_0.9-1.0	Jul 16, 2019		Soil	M19-Jl23618				X										
19	TP10_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23619				X										
20	TP10_2.5-2.6	Jul 16, 2019		Soil	M19-Jl23620				X										
21	TP11_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23621				X										

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
22	TP11_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23622				X										
23	TP11_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23623				X										
24	TP11_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23624				X										
25	TP7A_1.4-1.45	Jul 16, 2019		Soil	M19-Jl23625				X										
26	TP7A_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23626				X										
27	TP7B_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23627				X										
28	TP7B_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23628				X										
29	TP7B_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23629				X										
30	TP8_0.3-0.4	Jul 16, 2019		Soil	M19-Jl23630				X										
31	TP8_0.55-0.6	Jul 16, 2019		Soil	M19-Jl23631				X										
32	TP8_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23632				X										
33	TP8_1.3-1.4	Jul 16, 2019		Soil	M19-Jl23633				X										

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
34	TP9_0.0-0.05	Jul 16, 2019		Soil	M19-Jl23634				X										
35	QC02	Jul 16, 2019		Soil	M19-Jl23635						X			X	X		X		X
36	TB	Jul 16, 2019		Water	M19-Jl23636										X				
37	TS	Jul 16, 2019		Water	M19-Jl23637										X				
38	RIN03	Jul 16, 2019		Water	M19-Jl23638						X			X	X				X
Test Counts						2	4	1	19	2	13	1	1	13	15	1	14	2	13

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
% Clay	%	< 1			1	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	119			70-130	Pass	
TRH C10-C14	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	126			70-130	Pass	
Toluene	%	90			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	98			70-130	Pass	
Xylenes - Total	%	98			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	80			70-130	Pass	
1.1.1-Trichloroethane	%	94			70-130	Pass	
1.2-Dichlorobenzene	%	88			70-130	Pass	
1.2-Dichloroethane	%	84			70-130	Pass	
Benzene	%	101			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	110			70-130	Pass	
Toluene	%	118			70-130	Pass	
Trichloroethene	%	84			70-130	Pass	
Xylenes - Total	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	114			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	%	106			70-130	Pass	
TRH >C10-C16	%	96			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	80			70-130	Pass	
Acenaphthylene	%	75			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	72			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	85			70-130	Pass	
Benzo(g.h.i)perylene	%	73			70-130	Pass	
Benzo(k)fluoranthene	%	74			70-130	Pass	
Chrysene	%	72			70-130	Pass	
Dibenz(a.h)anthracene	%	96			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	73			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	73			70-130	Pass	
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	85			70-130	Pass	
4.4'-DDT	%	84			70-130	Pass	
a-BHC	%	72			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	81			70-130	Pass	
d-BHC	%	87			70-130	Pass	
Dieldrin	%	89			70-130	Pass	
Endosulfan I	%	75			70-130	Pass	
Endosulfan II	%	71			70-130	Pass	
Endosulfan sulphate	%	83			70-130	Pass	
Endrin	%	82			70-130	Pass	
Endrin aldehyde	%	73			70-130	Pass	
Endrin ketone	%	86			70-130	Pass	
g-BHC (Lindane)	%	78			70-130	Pass	
Heptachlor	%	91			70-130	Pass	
Heptachlor epoxide	%	82			70-130	Pass	
Hexachlorobenzene	%	87			70-130	Pass	
Methoxychlor	%	72			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	105			70-130	Pass	
LCS - % Recovery							
% Clay	%	100			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	94			80-120	Pass	
Cadmium	%	89			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	115			80-120	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury			%	113			75-125	Pass	
Nickel			%	103			80-120	Pass	
Zinc			%	104			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M19-Jl28000	NCP	%	81			70-130	Pass	
1.1.1-Trichloroethane	M19-Jl28000	NCP	%	87			70-130	Pass	
1.2-Dichlorobenzene	M19-Jl28000	NCP	%	97			70-130	Pass	
1.2-Dichloroethane	M19-Jl28000	NCP	%	94			70-130	Pass	
Trichloroethene	M19-Jl28000	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S19-Jl24887	NCP	%	104			70-130	Pass	
4.4'-DDD	S19-Jl24887	NCP	%	112			70-130	Pass	
4.4'-DDE	S19-Jl24887	NCP	%	124			70-130	Pass	
4.4'-DDT	S19-Jl24887	NCP	%	81			70-130	Pass	
a-BHC	S19-Jl24887	NCP	%	94			70-130	Pass	
Aldrin	S19-Jl24887	NCP	%	118			70-130	Pass	
b-BHC	S19-Jl24887	NCP	%	110			70-130	Pass	
d-BHC	S19-Jl24887	NCP	%	73			70-130	Pass	
Dieldrin	S19-Jl24887	NCP	%	93			70-130	Pass	
Endosulfan I	S19-Jl24887	NCP	%	98			70-130	Pass	
Endosulfan II	S19-Jl24887	NCP	%	103			70-130	Pass	
Endosulfan sulphate	S19-Jl24887	NCP	%	84			70-130	Pass	
Endrin	M19-Jl22380	NCP	%	84			70-130	Pass	
Endrin aldehyde	S19-Jl24887	NCP	%	130			70-130	Pass	
Endrin ketone	S19-Jl24887	NCP	%	92			70-130	Pass	
g-BHC (Lindane)	M19-Jl22380	NCP	%	88			70-130	Pass	
Heptachlor	M19-Jl22380	NCP	%	80			70-130	Pass	
Heptachlor epoxide	S19-Jl24887	NCP	%	88			70-130	Pass	
Hexachlorobenzene	S19-Jl24887	NCP	%	127			70-130	Pass	
Methoxychlor	S19-Jl18214	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S19-Jl24907	NCP	%	96			70-130	Pass	
Aroclor-1260	S19-Jl24907	NCP	%	128			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Zinc	M19-Jl24662	NCP	%	78			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M19-Jl23603	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M19-Jl23603	CP	%	115			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Jl23605	CP	%	103			70-130	Pass	
Acenaphthylene	M19-Jl23605	CP	%	104			70-130	Pass	
Anthracene	M19-Jl23605	CP	%	88			70-130	Pass	
Benz(a)anthracene	M19-Jl23605	CP	%	93			70-130	Pass	
Benzo(a)pyrene	M19-Jl23605	CP	%	60			70-130	Fail	Q08
Benzo(b&j)fluoranthene	M19-Jl23605	CP	%	45			70-130	Fail	Q08

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	M19-Jl23605	CP	%	60			70-130	Fail	Q08
Benzo(k)fluoranthene	M19-Jl23605	CP	%	46			70-130	Fail	Q08
Chrysene	M19-Jl23605	CP	%	98			70-130	Pass	
Dibenz(a.h)anthracene	M19-Jl23605	CP	%	71			70-130	Pass	
Fluoranthene	M19-Jl23605	CP	%	92			70-130	Pass	
Fluorene	M19-Jl23605	CP	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl23605	CP	%	63			70-130	Fail	Q08
Naphthalene	M19-Jl23605	CP	%	105			70-130	Pass	
Phenanthrene	M19-Jl23605	CP	%	86			70-130	Pass	
Pyrene	M19-Jl23605	CP	%	88			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M19-Jl23607	CP	%	119			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M19-Jl23607	CP	%	106			70-130	Pass	
Toluene	M19-Jl23607	CP	%	123			70-130	Pass	
Ethylbenzene	M19-Jl23607	CP	%	115			70-130	Pass	
m&p-Xylenes	M19-Jl23607	CP	%	121			70-130	Pass	
o-Xylene	M19-Jl23607	CP	%	122			70-130	Pass	
Xylenes - Total	M19-Jl23607	CP	%	122			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M19-Jl23607	CP	%	112			70-130	Pass	
TRH C6-C10	M19-Jl23607	CP	%	114			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M19-Jl23610	CP	%	101			75-125	Pass	
Cadmium	M19-Jl23610	CP	%	87			75-125	Pass	
Chromium	M19-Jl23610	CP	%	118			75-125	Pass	
Copper	M19-Jl23610	CP	%	106			75-125	Pass	
Lead	M19-Jl23610	CP	%	118			75-125	Pass	
Mercury	M19-Jl23610	CP	%	92			70-130	Pass	
Nickel	M19-Jl23610	CP	%	103			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M19-Jl27999	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M19-Jl23601	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-Jl23601	CP	mg/kg	360	390	7.0	30%	Pass	
TRH C29-C36	M19-Jl23601	CP	mg/kg	200	210	6.0	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M19-Jl27999	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M19-Jl27999	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M19-Jl27999	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M19-Jl27999	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M19-Jl27999	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M19-Jl27999	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
1.1-Dichloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1-Dichloroethene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.1-Trichloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.1.2-Tetrachloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.2-Trichloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.2.2-Tetrachloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dibromoethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichlorobenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloropropane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.3-Trichloropropane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.4-Trimethylbenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichlorobenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichloropropane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3.5-Trimethylbenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.4-Dichlorobenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Butanone (MEK)	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Propanone (Acetone)	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chlorotoluene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Methyl-2-pentanone (MIBK)	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Allyl chloride	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromobenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromochloromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromodichloromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromoform	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromomethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon disulfide	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon Tetrachloride	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorobenzene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroform	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.2-Dichloroethene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.3-Dichloropropene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromochloromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromomethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorodifluoromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Iodomethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Isopropyl benzene (Cumene)	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methylene Chloride	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Styrene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tetrachloroethene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
trans-1.2-Dichloroethene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
trans-1.3-Dichloropropene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloroethene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichlorofluoromethane	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Vinyl chloride	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	M19-Jl27999	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	M19-Jl27999	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	M19-Jl23601	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	M19-Jl23601	CP	mg/kg	490	520	7.0	30%	Pass
TRH >C34-C40	M19-Jl23601	CP	mg/kg	< 100	< 100	<1	30%	Pass

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Jl24906	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Jl24906	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S19-Jl24906	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S19-Jl24921	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Jl23601	CP	%	18	18	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	S19-Jn31362	NCP	%	21	21	<1	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	M19-Jl22383	NCP	meq/100g	12	13	5.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl23604	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Jl23604	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Jl23604	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Jl23604	CP	mg/kg	1.6	2.0	21	30%	Pass	
Benzo(a)pyrene	M19-Jl23604	CP	mg/kg	2.1	2.8	28	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl23604	CP	mg/kg	2.4	3.9	47	30%	Fail	Q15
Benzo(g.h.i)perylene	M19-Jl23604	CP	mg/kg	1.7	2.1	20	30%	Pass	
Benzo(k)fluoranthene	M19-Jl23604	CP	mg/kg	2.6	3.6	34	30%	Fail	Q15
Chrysene	M19-Jl23604	CP	mg/kg	1.7	2.1	23	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl23604	CP	mg/kg	0.6	0.8	22	30%	Pass	
Fluoranthene	M19-Jl23604	CP	mg/kg	4.0	3.4	17	30%	Pass	
Fluorene	M19-Jl23604	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Indeno(1.2.3-cd)pyrene	M19-Jl23604	CP	mg/kg	1.2	1.5	21	30%	Pass	
Naphthalene	M19-Jl23604	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Jl23604	CP	mg/kg	1.9	1.1	59	30%	Fail	Q15
Pyrene	M19-Jl23604	CP	mg/kg	3.7	3.5	6.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M19-Jl23607	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-Jl23607	CP	mg/kg	270	200	28	30%	Pass	
TRH C29-C36	M19-Jl23607	CP	mg/kg	130	110	22	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M19-Jl23607	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M19-Jl23607	CP	mg/kg	350	270	26	30%	Pass	
TRH >C34-C40	M19-Jl23607	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M19-Jl23610	CP	mg/kg	2.8	2.7	3.0	30%	Pass	
Cadmium	M19-Jl23610	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M19-Jl23610	CP	mg/kg	7.7	7.6	1.0	30%	Pass	
Copper	M19-Jl23610	CP	mg/kg	18	18	1.0	30%	Pass	
Lead	M19-Jl23610	CP	mg/kg	120	120	2.0	30%	Pass	
Mercury	M19-Jl23610	CP	mg/kg	0.1	0.1	<1	30%	Pass	
Nickel	M19-Jl23610	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M19-Jl23610	CP	mg/kg	130	130	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	M19-Jl23612	CP	uS/cm	35	35	<1	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	M19-Jl23612	CP	pH Units	7.8	7.8	pass	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Jl23613	CP	%	11	11	5.0	30%	Pass	

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Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

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

Attention: **Ryan Lill**

Report **666306-W**
Project name SIFS
Project ID 56262
Received Date Jul 16, 2019

Client Sample ID			TB	R20TS	RIN03
Sample Matrix			Water	Water	Water
Eurofins | mgt Sample No.			M19-Jl23636	M19-Jl23637	M19-Jl23638
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	-	-	< 0.02
TRH C10-C14	0.05	mg/L	-	-	< 0.05
TRH C15-C28	0.1	mg/L	-	-	< 0.1
TRH C29-C36	0.1	mg/L	-	-	< 0.1
TRH C10-36 (Total)	0.1	mg/L	-	-	< 0.1
BTEX					
Benzene	0.001	mg/L	< 0.001	110	< 0.001
Toluene	0.001	mg/L	< 0.001	100	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	110	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	94	< 0.002
o-Xylene	0.001	mg/L	< 0.001	100	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	97	< 0.003
4-Bromofluorobenzene (surr.)	1	%	67	86	71
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	-	-	< 0.01
TRH C6-C10	0.02	mg/L	-	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	-	< 0.02
TRH >C10-C16	0.05	mg/L	-	-	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	-	< 0.05
TRH >C16-C34	0.1	mg/L	-	-	< 0.1
TRH >C34-C40	0.1	mg/L	-	-	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	-	-	< 0.1
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	-	-	< 0.001
Acenaphthylene	0.001	mg/L	-	-	< 0.001
Anthracene	0.001	mg/L	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	-	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	-	< 0.001
Chrysene	0.001	mg/L	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	-	< 0.001
Fluoranthene	0.001	mg/L	-	-	< 0.001
Fluorene	0.001	mg/L	-	-	< 0.001

Client Sample ID			TB	R20TS	RIN03
Sample Matrix			Water	Water	Water
Eurofins | mgt Sample No.			M19-Jl23636	M19-Jl23637	M19-Jl23638
Date Sampled			Jul 16, 2019	Jul 16, 2019	Jul 16, 2019
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	-	< 0.001
Naphthalene	0.001	mg/L	-	-	< 0.001
Phenanthrene	0.001	mg/L	-	-	< 0.001
Pyrene	0.001	mg/L	-	-	< 0.001
Total PAH*	0.001	mg/L	-	-	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	-	68
p-Terphenyl-d14 (surr.)	1	%	-	-	64
Heavy Metals					
Arsenic	0.001	mg/L	-	-	< 0.001
Cadmium	0.0002	mg/L	-	-	< 0.0002
Chromium	0.001	mg/L	-	-	< 0.001
Copper	0.001	mg/L	-	-	< 0.001
Lead	0.001	mg/L	-	-	< 0.001
Mercury	0.0001	mg/L	-	-	< 0.0001
Nickel	0.001	mg/L	-	-	< 0.001
Zinc	0.005	mg/L	-	-	< 0.005

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Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 22, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 18, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 22, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 22, 2019	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Melbourne	Jul 18, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 666306
Phone: 02 8245 0300
Fax:

Received: Jul 16, 2019 5:24 PM
Due: Jul 23, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	CANCELLED	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Polychlorinated Biphenyls	Metals M8	BTEX	Volatile Organics	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
External Laboratory																			
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	TP9_0.7-0.8	Jul 16, 2019		Soil	M19-Jl23601						X	X	X	X	X	X	X		X
2	TP9_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23602	X				X							X	X	
3	TP10_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23603						X			X	X		X		X
4	TP10_2.0-2.1	Jul 16, 2019		Soil	M19-Jl23604						X			X	X		X		X
5	TP11_0.0-0.15	Jul 16, 2019		Soil	M19-Jl23605						X			X	X		X		X
6	TP11_0.6-0.7	Jul 16, 2019		Soil	M19-Jl23606			X											
7	TP11_1.4-1.5	Jul 16, 2019		Soil	M19-Jl23607						X			X	X		X		X
8	TP07A_0.4-0.5	Jul 16, 2019		Soil	M19-Jl23608		X												
9	TP7A_1.8-1.9	Jul 16, 2019		Soil	M19-Jl23609						X			X	X		X		X

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
10	TP7B_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23610		X				X			X	X		X		X
11	TP7B_1.9-2.0	Jul 16, 2019		Soil	M19-Jl23611						X			X	X		X		X
12	TP7B_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23612	X				X							X	X	
13	TP8_0.0-0.2	Jul 16, 2019		Soil	M19-Jl23613		X				X			X	X		X		X
14	TP8_0.6-0.8	Jul 16, 2019		Soil	M19-Jl23614						X			X	X		X		X
15	TP9_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23615		X				X			X	X		X		X
16	TP10_0.0-0.1	Jul 16, 2019		Soil	M19-Jl23616				X										
17	TP10_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23617				X										
18	TP10_0.9-1.0	Jul 16, 2019		Soil	M19-Jl23618				X										
19	TP10_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23619				X										
20	TP10_2.5-2.6	Jul 16, 2019		Soil	M19-Jl23620				X										
21	TP11_0.2-0.3	Jul 16, 2019		Soil	M19-Jl23621				X										

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
22	TP11_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23622				X										
23	TP11_2.1-2.2	Jul 16, 2019		Soil	M19-Jl23623				X										
24	TP11_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23624				X										
25	TP7A_1.4-1.45	Jul 16, 2019		Soil	M19-Jl23625				X										
26	TP7A_2.4-2.5	Jul 16, 2019		Soil	M19-Jl23626				X										
27	TP7B_0.5-0.6	Jul 16, 2019		Soil	M19-Jl23627				X										
28	TP7B_1.1-1.2	Jul 16, 2019		Soil	M19-Jl23628				X										
29	TP7B_1.5-1.6	Jul 16, 2019		Soil	M19-Jl23629				X										
30	TP8_0.3-0.4	Jul 16, 2019		Soil	M19-Jl23630				X										
31	TP8_0.55-0.6	Jul 16, 2019		Soil	M19-Jl23631				X										
32	TP8_1.0-1.1	Jul 16, 2019		Soil	M19-Jl23632				X										
33	TP8_1.3-1.4	Jul 16, 2019		Soil	M19-Jl23633				X										

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Melbourne Laboratory - NATA Site # 1254 & 14271								X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X												
Brisbane Laboratory - NATA Site # 20794						X													
Perth Laboratory - NATA Site # 23736																			
34	TP9_0.0-0.05	Jul 16, 2019		Soil	M19-Jl23634				X										
35	QC02	Jul 16, 2019		Soil	M19-Jl23635						X			X	X		X		X
36	TB	Jul 16, 2019		Water	M19-Jl23636										X				
37	TS	Jul 16, 2019		Water	M19-Jl23637										X				
38	RIN03	Jul 16, 2019		Water	M19-Jl23638						X			X	X				X
Test Counts						2	4	1	19	2	13	1	1	13	15	1	14	2	13

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	92			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	83			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	119			70-130	Pass	
m&p-Xylenes	%	117			70-130	Pass	
Xylenes - Total	%	116			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	82			70-130	Pass	
TRH C6-C10	%	94			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	100			70-130	Pass	
Acenaphthylene	%	99			70-130	Pass	
Anthracene	%	84			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g.h.i)perylene	%	128			70-130	Pass	
Benzo(k)fluoranthene	%	73			70-130	Pass	
Chrysene	%	101			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	109			70-130	Pass	
Naphthalene	%	84			70-130	Pass	
Phenanthrene	%	80			70-130	Pass	
Pyrene	%	101			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	94			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	96			80-120	Pass	
Copper	%	96			80-120	Pass	
Lead	%	95			80-120	Pass	
Mercury	%	95			75-125	Pass	
Nickel	%	95			80-120	Pass	
Zinc	%	101			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	N19-Jl21214	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	N19-Jl21214	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Jl22810	NCP	%	77			70-130	Pass	
Acenaphthylene	M19-Jl22810	NCP	%	77			70-130	Pass	
Anthracene	M19-Jl22810	NCP	%	76			70-130	Pass	
Benz(a)anthracene	M19-Jl22810	NCP	%	77			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	M19-Jl22810	NCP	%	79			70-130	Pass	
Benzo(b&j)fluoranthene	M19-Jl22810	NCP	%	78			70-130	Pass	
Benzo(g.h.i)perylene	M19-Jl22810	NCP	%	85			70-130	Pass	
Benzo(k)fluoranthene	M19-Jl22810	NCP	%	80			70-130	Pass	
Chrysene	M19-Jl22810	NCP	%	76			70-130	Pass	
Dibenz(a.h)anthracene	M19-Jl22810	NCP	%	83			70-130	Pass	
Fluoranthene	M19-Jl22810	NCP	%	79			70-130	Pass	
Fluorene	M19-Jl22810	NCP	%	79			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl22810	NCP	%	86			70-130	Pass	
Naphthalene	M19-Jl22810	NCP	%	74			70-130	Pass	
Phenanthrene	M19-Jl22810	NCP	%	74			70-130	Pass	
Pyrene	M19-Jl22810	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M19-Jl24134	NCP	%	98			75-125	Pass	
Cadmium	M19-Jl24134	NCP	%	97			75-125	Pass	
Chromium	M19-Jl24134	NCP	%	99			75-125	Pass	
Copper	M19-Jl24134	NCP	%	93			75-125	Pass	
Lead	M19-Jl24134	NCP	%	97			75-125	Pass	
Mercury	M19-Jl24134	NCP	%	92			70-130	Pass	
Nickel	M19-Jl24134	NCP	%	95			75-125	Pass	
Zinc	M19-Jl24134	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M19-Jl28292	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M19-Jl28292	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M19-Jl28292	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M19-Jl28292	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M19-Jl28292	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M19-Jl28292	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M19-Jl22809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M19-Jl24134	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	M19-Jl24134	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M19-Jl24134	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	M19-Jl24134	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	M19-Jl24134	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M19-Jl24134	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M19-Jl24134	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	M19-Jl24134	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

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Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

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018973

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 56262
PROJECT NAME: SIFS
DATE NEEDED BY: STAT

LABORATORY BATCH NO.: 665759
SAMPLERS: RL
QC LEVEL: NEPM (2013)

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

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	CEC, pH, Clay	HM	TPH/BTEX	PAHs	Asbestos	VOCs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP6A_0.05-0.2	Soil			J+B		.	x	x	x	x						
TP6B_0.1-0.2	↓			↓			x	.	x	x	x	x	x			
-0.5-0.6				S						.						
-1.0-1.1				2xV, 1xA, 1xM		x										
RINO2	WATER			↓			x	x								
RINO1	↓						x	x								

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Ryan DATE: 15/07/19	CONSIGNMENT NOTE NO.	NAME: Grace	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 15/7	COOLER TEMP 8.2 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

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NATA # 1261 Site # 20794

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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665759
Phone: 02 8245 0300
Fax:

Received: Jul 15, 2019 10:59 AM
Due: Jul 22, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
Perth Laboratory - NATA Site # 23736																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	TP6A_0.05-0.2	Not Provided		Soil	S19-Jl19263		X							X		X	
2	TP6B_0.1-0.2	Not Provided		Soil	S19-Jl19264		X			X	X	X	X	X			
3	TP6B_1.0-1.1	Not Provided		Soil	S19-Jl19265	X			X					X	X		
4	RIN02	Not Provided		Water	S19-Jl19266												X
5	RIN01	Not Provided		Water	S19-Jl19267												X
6	TP6B_0.5-0.6	Not Provided		Soil	S19-Jl19268			X									
Test Counts						1	2	1	1	1	1	1	1	3	1	1	2

Certificate of Analysis

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

Attention:	Ryan Lill
Report	665759-AID
Project Name	SIFS
Project ID	56262
Received Date	Jul 15, 2019
Date Reported	Jul 22, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

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Project Name SIFS
Project ID 56262
Date Sampled
Report 665759-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
TP6A_0.05-0.2	19-Jl19263	not provided	Approximate Sample 549g Sample consisted of: Brown coarse-grained soil, rocks, bituminous fragments and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP6B_0.1-0.2	19-Jl19264	not provided	Approximate Sample 534g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jul 15, 2019	Indefinite

DRAFT

eurofins | mgt

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

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665759
Phone: 02 8245 0300
Fax:

Received: Jul 15, 2019 10:59 AM
Due: Jul 22, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
Perth Laboratory - NATA Site # 23736																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	TP6A_0.05-0.2	Not Provided		Soil	S19-Jl19263		X							X		X	
2	TP6B_0.1-0.2	Not Provided		Soil	S19-Jl19264		X			X	X	X	X	X			
3	TP6B_1.0-1.1	Not Provided		Soil	S19-Jl19265	X			X					X	X		
4	RIN02	Not Provided		Water	S19-Jl19266												X
5	RIN01	Not Provided		Water	S19-Jl19267												X
6	TP6B_0.5-0.6	Not Provided		Soil	S19-Jl19268			X									
Test Counts						1	2	1	1	1	1	1	1	3	1	1	2

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

Units

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

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

DRAFT

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

Attention: **Ryan Lill**

Report **665759-S**
Project name SIFS
Project ID 56262
Received Date Jul 15, 2019

Client Sample ID			TP6A_0.05-0.2	TP6B_0.1-0.2	TP6B_1.0-1.1
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl19263**	**S19-Jl19264**	**S19-Jl19265**
Date Sampled			**Not Provided**	**Not Provided**	**Not Provided**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	-	-
TRH C15-C28	50	mg/kg	190	-	-
TRH C29-C36	50	mg/kg	110	-	-
TRH C10-36 (Total)	50	mg/kg	300	-	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	-	-
Toluene	0.1	mg/kg	< 0.1	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-
4-Bromofluorobenzene (surr.)	1	%	92	-	-
Volatile Organics					
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-
Allyl chloride	0.5	mg/kg	-	< 0.5	-

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Client Sample ID			TP6A_0.05-0.2	TP6B_0.1-0.2	TP6B_1.0-1.1
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl19263	S19-Jl19264	S19-Jl19265
Date Sampled			Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit			
Volatile Organics					
Benzene	0.1	mg/kg	-	< 0.1	-
Bromobenzene	0.5	mg/kg	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-
Bromoform	0.5	mg/kg	-	< 0.5	-
Bromomethane	0.5	mg/kg	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	-
Chloroethane	0.5	mg/kg	-	< 0.5	-
Chloroform	0.5	mg/kg	-	< 0.5	-
Chloromethane	0.5	mg/kg	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-
Dibromomethane	0.5	mg/kg	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-
Iodomethane	0.5	mg/kg	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	-
o-Xylene	0.1	mg/kg	-	< 0.1	-
Styrene	0.5	mg/kg	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-
Toluene	0.1	mg/kg	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-
Trichloroethene	0.5	mg/kg	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-
Total MAH*	0.5	mg/kg	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	104	-
Toluene-d8 (surr.)	1	%	-	80	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-
TRH >C16-C34	100	mg/kg	250	-	-
TRH >C34-C40	100	mg/kg	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	250	-	-

Client Sample ID			TP6A_0.05-0.2	TP6B_0.1-0.2	TP6B_1.0-1.1
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl19263	S19-Jl19264	S19-Jl19265
Date Sampled			Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.9	2.7	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.2	2.9	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	6.4	3.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	1.1	< 0.5	-
Anthracene	0.5	mg/kg	1.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	4.3	1.4	-
Benzo(a)pyrene	0.5	mg/kg	4.2	2.1	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.1	1.2	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.7	1.2	-
Benzo(k)fluoranthene	0.5	mg/kg	2.3	1.5	-
Chrysene	0.5	mg/kg	3.4	1.6	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	8.9	1.6	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	4.9	1.4	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	7.5	< 0.5	-
Pyrene	0.5	mg/kg	7.8	1.8	-
Total PAH*	0.5	mg/kg	53.7	13.8	-
2-Fluorobiphenyl (surr.)	1	%	84	105	-
p-Terphenyl-d14 (surr.)	1	%	78	120	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-
Toxaphene	1	mg/kg	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	84	-
Tetrachloro-m-xylene (surr.)	1	%	-	115	-

Client Sample ID			TP6A_0.05-0.2	TP6B_0.1-0.2	TP6B_1.0-1.1
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl19263	S19-Jl19264	S19-Jl19265
Date Sampled			Not Provided	Not Provided	Not Provided
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	84	-
Tetrachloro-m-xylene (surr.)	1	%	-	115	-
% Clay	1	%	-	-	
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	-	40
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	6.0
% Moisture	1	%	6.2	10.0	11
Heavy Metals					
Arsenic	2	mg/kg	5.3	5.7	-
Cadmium	0.4	mg/kg	0.5	< 0.4	-
Chromium	5	mg/kg	21	10	-
Copper	5	mg/kg	27	58	-
Lead	5	mg/kg	870	58	-
Mercury	0.1	mg/kg	1.8	< 0.1	-
Nickel	5	mg/kg	7.9	5.8	-
Zinc	5	mg/kg	1600	65	-
Cation Exchange Capacity					
Cation Exchange Capacity	0.05	meq/100g	-	-	3.4

DRAFT

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B6			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 18, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Melbourne	Jul 18, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Melbourne	Jul 18, 2019	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
% Clay	Brisbane	Jul 19, 2019	0 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Melbourne	Jul 18, 2019	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Eurofins | mgt Suite B7			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Eurofins | mgt Suite B13			
Organochlorine Pesticides	Melbourne	Jul 18, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Jul 18, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Jul 18, 2019	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 19, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Melbourne	Jul 15, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

DRAFT

eurofins | mgt

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NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665759
Phone: 02 8245 0300
Fax:

Received: Jul 15, 2019 10:59 AM
Due: Jul 22, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
Perth Laboratory - NATA Site # 23736																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	TP6A_0.05-0.2	Not Provided		Soil	S19-Jl19263		X							X		X	
2	TP6B_0.1-0.2	Not Provided		Soil	S19-Jl19264		X			X	X	X	X	X			
3	TP6B_1.0-1.1	Not Provided		Soil	S19-Jl19265	X			X					X	X		
4	RIN02	Not Provided		Water	S19-Jl19266												X
5	RIN01	Not Provided		Water	S19-Jl19267												X
6	TP6B_0.5-0.6	Not Provided		Soil	S19-Jl19268			X									
Test Counts						1	2	1	1	1	1	1	1	3	1	1	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	89			70-130	Pass	
TRH C10-C14	%	93			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	87			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	101			70-130	Pass	
Xylenes - Total	%	102			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	75			70-130	Pass	
1.1.1-Trichloroethane	%	75			70-130	Pass	
1.2-Dichlorobenzene	%	84			70-130	Pass	
1.2-Dichloroethane	%	91			70-130	Pass	
Trichloroethene	%	82			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	94			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	108			70-130	Pass	
Anthracene	%	112			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene	%	116			70-130	Pass	
Benzo(b&j)fluoranthene	%	99			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	105			70-130	Pass	
Fluorene	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
Phenanthrene	%	103			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	103			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	112			70-130	Pass	
4.4'-DDT	%	97			70-130	Pass	
a-BHC	%	105			70-130	Pass	
Aldrin	%	106			70-130	Pass	
b-BHC	%	98			70-130	Pass	
d-BHC	%	101			70-130	Pass	
Dieldrin	%	114			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	110			70-130	Pass	
Endosulfan sulphate	%	92			70-130	Pass	
Endrin	%	96			70-130	Pass	
Endrin aldehyde	%	85			70-130	Pass	
Endrin ketone	%	102			70-130	Pass	
g-BHC (Lindane)	%	114			70-130	Pass	
Heptachlor	%	101			70-130	Pass	
Heptachlor epoxide	%	106			70-130	Pass	
Hexachlorobenzene	%	114			70-130	Pass	
Methoxychlor	%	78			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	96			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	106			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	114			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	119			80-120	Pass	
Mercury	%	107			75-125	Pass	
Nickel	%	107			80-120	Pass	
Zinc	%	103			80-120	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Jl19298	NCP	%	106			70-130	Pass	
TRH C10-C14	M19-Jl20186	NCP	%	99			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Jl19298	NCP	%	95			70-130	Pass	
Toluene	S19-Jl19298	NCP	%	73			70-130	Pass	
Ethylbenzene	S19-Jl19298	NCP	%	88			70-130	Pass	
m&p-Xylenes	S19-Jl19298	NCP	%	89			70-130	Pass	
o-Xylene	S19-Jl19298	NCP	%	88			70-130	Pass	
Xylenes - Total	S19-Jl19298	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Jl19298	NCP	%	96			70-130	Pass	
TRH C6-C10	S19-Jl19298	NCP	%	99			70-130	Pass	
TRH >C10-C16	M19-Jl20186	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	N19-Jl19167	NCP	%	107			75-125	Pass	
Cadmium	N19-Jl19167	NCP	%	89			75-125	Pass	
Chromium	N19-Jl19167	NCP	%	113			75-125	Pass	
Copper	N19-Jl19167	NCP	%	109			75-125	Pass	
Lead	N19-Jl19167	NCP	%	121			75-125	Pass	
Mercury	N19-Jl19167	NCP	%	101			70-130	Pass	
Nickel	N19-Jl19167	NCP	%	106			75-125	Pass	
Zinc	N19-Jl19167	NCP	%	103			75-125	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M19-Jl20156	NCP	%	74			70-130	Pass	
1.1.1-Trichloroethane	M19-Jl20156	NCP	%	73			70-130	Pass	
1.2-Dichlorobenzene	M19-Jl20156	NCP	%	80			70-130	Pass	
1.2-Dichloroethane	M19-Jl20156	NCP	%	76			70-130	Pass	
Trichloroethene	M19-Jl20156	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Jl21523	NCP	%	88			70-130	Pass	
Acenaphthylene	M19-Jl21523	NCP	%	86			70-130	Pass	
Anthracene	M19-Jl21523	NCP	%	80			70-130	Pass	
Benz(a)anthracene	M19-Jl21523	NCP	%	75			70-130	Pass	
Benzo(a)pyrene	M19-Jl21523	NCP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	M19-Jl21523	NCP	%	87			70-130	Pass	
Benzo(g.h.i)perylene	M19-Jl21523	NCP	%	104			70-130	Pass	
Benzo(k)fluoranthene	M19-Jl21523	NCP	%	92			70-130	Pass	
Chrysene	M19-Jl21523	NCP	%	96			70-130	Pass	
Dibenz(a.h)anthracene	M19-Jl21523	NCP	%	76			70-130	Pass	
Fluoranthene	M19-Jl21523	NCP	%	83			70-130	Pass	
Fluorene	M19-Jl21523	NCP	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl21523	NCP	%	76			70-130	Pass	
Naphthalene	M19-Jl21523	NCP	%	86			70-130	Pass	
Phenanthrene	M19-Jl21523	NCP	%	82			70-130	Pass	
Pyrene	M19-Jl21523	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	M19-Jl20541	NCP	%	122			70-130	Pass	
4.4'-DDD	M19-Jl20541	NCP	%	120			70-130	Pass	
4.4'-DDE	M19-Jl20541	NCP	%	89			70-130	Pass	
4.4'-DDT	M19-Jl20541	NCP	%	84			70-130	Pass	
a-BHC	M19-Jl20541	NCP	%	107			70-130	Pass	
Aldrin	M19-Jl20541	NCP	%	90			70-130	Pass	
b-BHC	M19-Jl20541	NCP	%	101			70-130	Pass	
d-BHC	M19-Jl20541	NCP	%	72			70-130	Pass	
Dieldrin	M19-Jl20541	NCP	%	95			70-130	Pass	
Endosulfan I	M19-Jl20541	NCP	%	82			70-130	Pass	
Endosulfan II	M19-Jl20541	NCP	%	91			70-130	Pass	
Endosulfan sulphate	M19-Jl20541	NCP	%	84			70-130	Pass	
Endrin	M19-Jl20541	NCP	%	76			70-130	Pass	
Endrin aldehyde	M19-Jl20541	NCP	%	76			70-130	Pass	
Endrin ketone	M19-Jl20541	NCP	%	115			70-130	Pass	
g-BHC (Lindane)	M19-Jl20541	NCP	%	127			70-130	Pass	
Heptachlor	M19-Jl20541	NCP	%	102			70-130	Pass	
Heptachlor epoxide	M19-Jl20541	NCP	%	120			70-130	Pass	
Hexachlorobenzene	M19-Jl20541	NCP	%	123			70-130	Pass	
Methoxychlor	M19-Jl20541	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M19-Jl18127	NCP	%	85			70-130	Pass	
Aroclor-1260	M19-Jl18127	NCP	%	91			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Jl19297	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M19-Jl20185	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-Jl20185	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M19-Jl20185	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Jl19297	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Jl19297	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Jl19297	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Jl19297	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Jl19297	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Jl19297	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Jl19297	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Jl19297	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M19-Jl20185	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M19-Jl20185	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M19-Jl20185	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	N19-Jl19171	NCP	%	17	17	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	N19-Jl19167	NCP	mg/kg	5.2	5.0	4.0	30%	Pass	
Cadmium	N19-Jl19166	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	N19-Jl19166	NCP	mg/kg	6.5	7.5	14	30%	Pass	
Copper	N19-Jl19166	NCP	mg/kg	20	33	47	30%	Fail	Q15
Lead	N19-Jl19167	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	N19-Jl19166	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	N19-Jl19166	NCP	mg/kg	7.3	8.8	19	30%	Pass	
Zinc	N19-Jl19167	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Trichloroethene	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	M19-Jl20226	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-Jl18882	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M19-Jl18882	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M19-Jl18882	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	M19-Jl21431	NCP	uS/cm	76	100	28	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	M19-Jl21431	NCP	pH Units	8.7	8.7	pass	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	M19-Jl22220	NCP	meq/100g	26	25	2.0	30%	Pass	

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Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

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DRAFT

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

Attention: **Ryan Lill**

Report **665759-W**
Project name SIFS
Project ID 56262
Received Date Jul 15, 2019

Client Sample ID			RIN02	RIN01
Sample Matrix			Water	Water
Eurofins | mgt Sample No.			S19-Jl19266	S19-Jl19267
Date Sampled			Not Provided	Not Provided
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1
BTEX				
Benzene	0.001	mg/L	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	99	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002
Chromium	0.001	mg/L	< 0.001	< 0.001
Copper	0.001	mg/L	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.001	mg/L	< 0.001	< 0.001
Zinc	0.005	mg/L	< 0.005	< 0.005

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B6			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 16, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 16, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 16, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 16, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Melbourne	Jul 16, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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eurofins | mgt

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NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665759
Phone: 02 8245 0300
Fax:

Received: Jul 15, 2019 10:59 AM
Due: Jul 22, 2019
Priority: 5 Day
Contact Name: Ryan Lill

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X									
Brisbane Laboratory - NATA Site # 20794						X											
Perth Laboratory - NATA Site # 23736																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	TP6A_0.05-0.2	Not Provided		Soil	S19-Jl19263		X							X		X	
2	TP6B_0.1-0.2	Not Provided		Soil	S19-Jl19264		X			X	X	X	X	X			
3	TP6B_1.0-1.1	Not Provided		Soil	S19-Jl19265	X			X					X	X		
4	RIN02	Not Provided		Water	S19-Jl19266												X
5	RIN01	Not Provided		Water	S19-Jl19267												X
6	TP6B_0.5-0.6	Not Provided		Soil	S19-Jl19268			X									
Test Counts						1	2	1	1	1	1	1	1	3	1	1	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	115			70-130	Pass	
TRH C10-C14	%	127			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	114			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Xylenes - Total	%	105			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	94			70-130	Pass	
TRH C6-C10	%	125			70-130	Pass	
TRH >C10-C16	%	120			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	87			80-120	Pass	
Cadmium	%	93			80-120	Pass	
Chromium	%	93			80-120	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper			%	89			80-120	Pass	
Lead			%	102			80-120	Pass	
Mercury			%	91			75-125	Pass	
Nickel			%	89			80-120	Pass	
Zinc			%	89			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M19-Jl22267	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M19-Jl22267	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Jl19820	NCP	%	90			75-125	Pass	
Cadmium	S19-Jl19820	NCP	%	102			75-125	Pass	
Chromium	S19-Jl19820	NCP	%	100			75-125	Pass	
Copper	S19-Jl19820	NCP	%	92			75-125	Pass	
Lead	S19-Jl19820	NCP	%	108			75-125	Pass	
Mercury	S19-Jl19820	NCP	%	107			70-130	Pass	
Nickel	S19-Jl19820	NCP	%	92			75-125	Pass	
Zinc	S19-Jl19820	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M19-Jl22266	NCP	mg/L	1.0	0.97	3.0	30%	Pass	
TRH C15-C28	M19-Jl22266	NCP	mg/L	0.6	1.0	49	30%	Fail	Q15
TRH C29-C36	M19-Jl22266	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M19-Jl22266	NCP	mg/L	1.5	1.7	14	30%	Pass	
TRH >C16-C34	M19-Jl22266	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M19-Jl22266	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Jl19820	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S19-Jl19820	NCP	mg/L	0.0003	0.0004	37	30%	Fail	Q15
Chromium	S19-Jl19820	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S19-Jl19820	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	S19-Jl19820	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S19-Jl19820	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S19-Jl19820	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S19-Jl19820	NCP	mg/L	< 0.005	0.005	130	30%	Fail	Q15

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

DRAFT

#665365

018970

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 56262	LABORATORY BATCH NO.:
PROJECT NAME: ~~SYDNEY~~ SIFS	SAMPLERS: RL
DATE NEEDED BY:	QC LEVEL: NEPM (2013)
PHONE: ~~Sydney: 02 8245 0300~~ | Perth: 08 9488 0100 | Brisbane: 07 3112 2688	
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) ddenaro@jbsg.com.au; (3) rill@jbsg.com.au	

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	CEC, pH, CEC HM	TRH/BTEX	PAHs	Asbestos	VOCs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP1A – 0.1–0.2	Soil	11/7/19		J+B			x	x	x	x					
0.3–0.38							~~x~~	~~x~~	~~x~~	~~x~~					
0.38–0.42															
0.5–0.6															
0.6–0.7						~~x~~									
TP1B – 0.0–0.2				J+B											
0.2–0.3							x	x	x	x	x				
0.4–0.5							x	x							
0.6–0.7						x									
TP3A – 0.17–0.2				J+B											
0.3–0.4							x	x	x	x					
0.6–0.65				J		x									
TP3B – 0.1–0.13				J+B											
0.15–0.2									x	x					
0.3–0.4							x	x	x						
1.0–1.1				J											
TP5A – 0.1–0.14				J+B											
0.14–0.23							x	x	x	x	x	~~x~~			
0.3–0.4							x	x	x						

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Ryan DATE: 11.7.19	CONSIGNMENT NOTE NO.	NAME: [illegible] DATE: 11/7/19 5:00PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Eurofins	COOLER TEMP ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

018971

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 56262	LABORATORY BATCH NO.:
PROJECT NAME: SIFS	SAMPLERS: RL
DATE NEEDED BY:	QC LEVEL: NEPM (2013)

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

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	PAHs	TRH/BTEX	Asbestos	VOCs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP5A_0.5-0.6	Soil	11/7/19		J											
TP5B_0.1-0.2	↓	↓		J+B		x	x	x	x		x	x			
↓ 0.3-0.4				↓											
↓ 0.6-0.7				J											
TP01B_FRAG01	FRAG	↓		B					x				x		
TP01B_FRAG02	↓			B					x				x		
TP02B_0.1-0.2				J+B		x	x	x	x	x	x	x			
↓ 0.5-0.6				J											
QC01				J+B		x	x	x	x	x	x	x			
TP4B_0.0-0.1				↓							x	x			
↓ 0.2-0.3				↓		x	x	x	x						
↓ 0.5-0.6				J											
TP2A_0.05-0.2				J+B							x	x			
↓ 0.2-0.3				↓		x	x	x	x						
↓ 0.4-0.5				J											
TP4A_0.0-0.1				J+B		.					x	x			
↓ 0.2-0.3				↓		x	x	x	x						
↓ 0.4-0.5				J											

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Ryan DATE: 11.7.19	CONSIGNMENT NOTE NO.	NAME: Evelyn DATE: 11/7/19 6:00pm	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Eurofins	COOLER TEMP 6.7 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

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

Attention:	Daniel Denaro
Report	665365-AID
Project Name	SIFS
Project ID	56262
Received Date	Jul 11, 2019
Date Reported	Jul 18, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name SIFS
Project ID 56262
Date Sampled Jul 11, 2019
Report 665365-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
TP1A_0.1-0.2	19-Jl15943	Jul 11, 2019	Approximate Sample 517g Sample consisted of: Brown coarse-grained soil, rocks and fragments of plaster	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP1B_0.2-0.3	19-Jl15944	Jul 11, 2019	Approximate Sample 437g Sample consisted of: Brown coarse-grained soil, rocks and bituminous fragments	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP3A_0.3-0.4	19-Jl15947	Jul 11, 2019	Approximate Sample 552g Sample consisted of: Brown fine-grained sandy soil, rocks and sandstone	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP3B_0.15-0.2	19-Jl15949	Jul 11, 2019	Approximate Sample 410g Sample consisted of: Brown fine-grained sandy soil, rocks and sandstone	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP5A_0.14-0.23	19-Jl15951	Jul 11, 2019	Approximate Sample 661g Sample consisted of: Brown coarse-grained soil, rocks and fragments of coal-like material	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP5B_0.1-0.2	19-Jl15953	Jul 11, 2019	Approximate Sample 358g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP01B_FRAG01	19-Jl15954	Jul 11, 2019	Approximate Sample 23g / 75x25x3mm Sample consisted of: Grey compressed fibre cement	Chrysotile, amosite and crocidolite asbestos detected.
TP01B_FRAG02	19-Jl15955	Jul 11, 2019	Approximate Sample 14g / 60x25x3mm Sample consisted of: Grey compressed fibre cement	Chrysotile and amosite asbestos detected.

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
TP02B_0.1-0.2	19-Jl15956	Jul 11, 2019	Approximate Sample 542g Sample consisted of: Brown coarse-grained soil, rocks, bituminous fragments and cement	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
QC01	19-Jl15957	Jul 11, 2019	Approximate Sample 690g Sample consisted of: Brown coarse-grained soil, rocks, bituminous fragments and cement	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP4B_0.2-0.3	19-Jl15959	Jul 11, 2019	Approximate Sample 481g Sample consisted of: Brown coarse-grained soil, rocks, cement and bituminous fragments	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP2A_0.2-0.3	19-Jl15961	Jul 11, 2019	Approximate Sample 549g Sample consisted of: Brown fine-grained sandy soil, rocks and sandstone	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
TP4A_0.2-0.3	19-Jl15963	Jul 11, 2019	Approximate Sample 462g Sample consisted of: Brown coarse-grained soil, rocks and brick	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jul 18, 2019	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Jul 18, 2019	Indefinite

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665365
Phone: 02 8245 0300
Fax:

Received: Jul 11, 2019 5:00 PM
Due: Jul 18, 2019
Priority: 5 Day
Contact Name: Daniel Denaro

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	TP1A_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15943		X						X		X	
2	TP1B_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15944		X					X	X		X	
3	TP1B_0.4-0.5	Jul 11, 2019		Soil	S19-Jl15945								X			X
4	TP1B_0.6-0.7	Jul 11, 2019		Soil	S19-Jl15946	X				X			X	X		
5	TP3A_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15947		X						X		X	
6	TP3A_0.6-0.65	Jul 11, 2019		Soil	S19-Jl15948	X				X			X	X		
7	TP3B_0.15-0.2	Jul 11, 2019		Soil	S19-Jl15949		X					X	X			
8	TP3B_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15950								X		X	
9	TP5A_0.14-0.23	Jul 11, 2019		Soil	S19-Jl15951		X					X	X		X	

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Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
10	TP5A_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15952								X		X	
11	TP5B_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15953		X				X		X		X	
12	TP01B_FRAG 01	Jul 11, 2019		Building Materials	S19-Jl15954			X								
13	TP01B_FRAG 02	Jul 11, 2019		Building Materials	S19-Jl15955			X								
14	TP02B_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15956		X				X	X	X		X	
15	QC01	Jul 11, 2019		Soil	S19-Jl15957		X				X	X	X		X	
16	TP4B_0.0-0.1	Jul 11, 2019		Soil	S19-Jl15958						X		X			
17	TP4B_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15959		X						X		X	
18	TP2A_0.05-0.2	Jul 11, 2019		Soil	S19-Jl15960						X		X			
19	TP2A_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15961		X						X		X	
20	TP4A_0.0-0.1	Jul 11, 2019		Soil	S19-Jl15962						X		X			

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Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
21	TP4A_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15963		X						X		X	
22	TP1A_0.3-0.38	Jul 11, 2019		Soil	S19-Jl15989				X							
23	TP1A_0.38-0.42	Jul 11, 2019		Soil	S19-Jl15990				X							
24	TP1A_0.5-0.6	Jul 11, 2019		Soil	S19-Jl15991				X							
25	TP1A_0.6-0.7	Jul 11, 2019		Soil	S19-Jl15992				X							
26	TP1B_0.0-0.2	Jul 11, 2019		Soil	S19-Jl15993				X							
27	TP3A_0.17-0.2	Jul 11, 2019		Soil	S19-Jl15994				X							
28	TP3B_0.1-0.13	Jul 11, 2019		Soil	S19-Jl15995				X							
29	TP3B_1.0-1.1	Jul 11, 2019		Soil	S19-Jl15996				X							
30	TP5A_0.1-0.14	Jul 11, 2019		Soil	S19-Jl15997				X							
31	TP5A_0.5-0.6	Jul 11, 2019		Soil	S19-Jl15998				X							

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Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
32	TP5B_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15999				X							
33	TP5B_0.6-0.7	Jul 11, 2019		Soil	S19-Jl16000				X							
34	TP02B_0.5-0.6	Jul 11, 2019		Soil	S19-Jl16001				X							
35	TP04B_0.5-0.6	Jul 11, 2019		Soil	S19-Jl16002				X							
36	TP02A_0.4-0.5	Jul 11, 2019		Soil	S19-Jl16003				X							
37	TP04A_0.4-0.5	Jul 11, 2019		Soil	S19-Jl16004				X							
Test Counts						2	11	2	16	2	6	5	19	2	12	1

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

Units

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

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

S19-Jl15944, S19-Jl15949, S19-Jl15953, S19-Jl15959, S19-Jl15963: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
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NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Daniel Denaro**

Report **665365-S**
Project name SIFS
Project ID 56262
Received Date Jul 11, 2019

Client Sample ID			**TP1A_0.1-0.2**	**TP1B_0.2-0.3**	**TP1B_0.4-0.5**	**TP1B_0.6-0.7**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl15943**	**S19-Jl15944**	**S19-Jl15945**	**S19-Jl15946**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	140	< 20	-
TRH C15-C28	50	mg/kg	< 50	7700	120	-
TRH C29-C36	50	mg/kg	< 50	4700	85	-
TRH C10-36 (Total)	50	mg/kg	< 50	12540	205	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	144	119	127	-
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-	-
Allyl chloride	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			TP1A_0.1-0.2	TP1B_0.2-0.3	TP1B_0.4-0.5	TP1B_0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15943	S19-Jl15944	S19-Jl15945	S19-Jl15946
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
Benzene	0.1	mg/kg	-	< 0.1	-	-
Bromobenzene	0.5	mg/kg	-	< 0.5	-	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromoform	0.5	mg/kg	-	< 0.5	-	-
Bromomethane	0.5	mg/kg	-	< 0.5	-	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	-	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	-	-
Chloroethane	0.5	mg/kg	-	< 0.5	-	-
Chloroform	0.5	mg/kg	-	< 0.5	-	-
Chloromethane	0.5	mg/kg	-	< 0.5	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Dibromomethane	0.5	mg/kg	-	< 0.5	-	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	-
Iodomethane	0.5	mg/kg	-	< 0.5	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Styrene	0.5	mg/kg	-	< 0.5	-	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-	-
Toluene	0.1	mg/kg	-	< 0.1	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Trichloroethene	0.5	mg/kg	-	< 0.5	-	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	-	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-	-
Total MAH*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
4-Bromofluorobenzene (surr.)	1	%	-	119	-	-
Toluene-d8 (surr.)	1	%	-	105	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	1.0	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	350	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	349	< 50	-
TRH >C16-C34	100	mg/kg	< 100	10000	160	-
TRH >C34-C40	100	mg/kg	< 100	1700	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	12050	160	-

Client Sample ID			TP1A_0.1-0.2	TP1B_0.2-0.3	TP1B_0.4-0.5	TP1B_0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15943	S19-Jl15944	S19-Jl15945	S19-Jl15946
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.9	220	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.1	220	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.4	220	-	-
Acenaphthene	0.5	mg/kg	< 0.5	3.4	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	31	-	-
Anthracene	0.5	mg/kg	< 0.5	50	-	-
Benz(a)anthracene	0.5	mg/kg	0.6	170	-	-
Benzo(a)pyrene	0.5	mg/kg	0.7	150	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	0.5	120	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	44	-	-
Benzo(k)fluoranthene	0.5	mg/kg	0.5	130	-	-
Chrysene	0.5	mg/kg	0.7	150	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	19	-	-
Fluoranthene	0.5	mg/kg	1.2	310	-	-
Fluorene	0.5	mg/kg	< 0.5	10	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	59	-	-
Naphthalene	0.5	mg/kg	< 0.5	3.2	-	-
Phenanthrene	0.5	mg/kg	< 0.5	230	-	-
Pyrene	0.5	mg/kg	1.3	320	-	-
Total PAH*	0.5	mg/kg	5.5	1799.6	-	-
2-Fluorobiphenyl (surr.)	1	%	88	61	-	-
p-Terphenyl-d14 (surr.)	1	%	83	94	-	-
% Clay	1	%	-	-	-	6.3
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	-	-	36
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	-	6.5
% Moisture	1	%	3.3	1.3	3.0	1.6
Heavy Metals						
Arsenic	2	mg/kg	63	46	7.6	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	19	19	17	-
Copper	5	mg/kg	57	52	29	-
Lead	5	mg/kg	43	76	25	-
Mercury	0.1	mg/kg	0.1	0.2	< 0.1	-
Nickel	5	mg/kg	120	56	5.5	-
Zinc	5	mg/kg	180	180	43	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	-	-	3.9

Client Sample ID			TP3A_0.3-0.4	TP3A_0.6-0.65	TP3B_0.15-0.2	TP3B_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15947	S19-Jl15948	S19-Jl15949	S19-Jl15950
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	-	< 20
TRH C10-C14	20	mg/kg	< 20	-	-	< 20
TRH C15-C28	50	mg/kg	< 50	-	-	< 50
TRH C29-C36	50	mg/kg	< 50	-	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	-	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	-	-	87
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	-	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	< 0.5	-
Allyl chloride	0.5	mg/kg	-	-	< 0.5	-
Benzene	0.1	mg/kg	-	-	< 0.1	-
Bromobenzene	0.5	mg/kg	-	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	-	< 0.5	-
Bromoform	0.5	mg/kg	-	-	< 0.5	-
Bromomethane	0.5	mg/kg	-	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	-	< 0.5	-
Chloroethane	0.5	mg/kg	-	-	< 0.5	-
Chloroform	0.5	mg/kg	-	-	< 0.5	-
Chloromethane	0.5	mg/kg	-	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-

Client Sample ID			TP3A_0.3-0.4	TP3A_0.6-0.65	TP3B_0.15-0.2	TP3B_0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15947	S19-Jl15948	S19-Jl15949	S19-Jl15950
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
Dibromochloromethane	0.5	mg/kg	-	-	< 0.5	-
Dibromomethane	0.5	mg/kg	-	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	-	< 0.1	-
Iodomethane	0.5	mg/kg	-	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	-	< 0.5	-
o-Xylene	0.1	mg/kg	-	-	< 0.1	-
Styrene	0.5	mg/kg	-	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	-	< 0.5	-
Toluene	0.1	mg/kg	-	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	< 0.5	-
Trichloroethene	0.5	mg/kg	-	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	-	< 0.5	-
Xylenes - Total	0.3	mg/kg	-	-	< 0.3	-
Total MAH*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	-	142	-
Toluene-d8 (surr.)	1	%	-	-	123	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	-	< 20
TRH >C10-C16	50	mg/kg	< 50	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	-	< 50
TRH >C16-C34	100	mg/kg	< 100	-	-	< 100
TRH >C34-C40	100	mg/kg	< 100	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			TP3A_0.3-0.4	TP3A_0.6-0.65	TP3B_0.15-0.2	TP3B_0.3-0.4
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl15947**	**S19-Jl15948**	**S19-Jl15949**	**S19-Jl15950**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	< 0.5	-	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	85	-	-	86
p-Terphenyl-d14 (surr.)	1	%	86	-	-	90
% Clay	1	%	-	8.8	-	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	37	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	6.3	-	-
% Moisture	1	%	6.5	8.5	9.8	13
Heavy Metals						
Arsenic	2	mg/kg	2.5	-	-	3.0
Cadmium	0.4	mg/kg	< 0.4	-	-	< 0.4
Chromium	5	mg/kg	8.6	-	-	8.2
Copper	5	mg/kg	16	-	-	< 5
Lead	5	mg/kg	49	-	-	< 5
Mercury	0.1	mg/kg	< 0.1	-	-	< 0.1
Nickel	5	mg/kg	< 5	-	-	< 5
Zinc	5	mg/kg	18	-	-	< 5
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	2.7	-	-

Client Sample ID			TP5A_0.14-0.23	TP5A_0.3-0.4	TP5B_0.1-0.2	TP02B_0.1-0.2
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl15951**	**S19-Jl15952**	**S19-Jl15953**	**S19-Jl15956**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	57
TRH C15-C28	50	mg/kg	2600	< 50	4100	3900
TRH C29-C36	50	mg/kg	1200	< 50	3400	2800
TRH C10-36 (Total)	50	mg/kg	3800	< 50	7500	6757
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	117	128	65	120
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5

Client Sample ID			TP5A_0.14-0.23	TP5A_0.3-0.4	TP5B_0.1-0.2	TP02B_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15951	S19-Jl15952	S19-Jl15953	S19-Jl15956
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	< 0.5
Allyl chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Benzene	0.1	mg/kg	< 0.1	-	-	< 0.1
Bromobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromoform	0.5	mg/kg	< 0.5	-	-	< 0.5
Bromomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloroethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloroform	0.5	mg/kg	< 0.5	-	-	< 0.5
Chloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Dibromomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	< 0.1
Iodomethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	< 0.5
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
o-Xylene	0.1	mg/kg	< 0.1	-	-	< 0.1
Styrene	0.5	mg/kg	< 0.5	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
Toluene	0.1	mg/kg	< 0.1	-	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	< 0.5
Trichloroethene	0.5	mg/kg	< 0.5	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	< 0.5
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	< 0.3

Client Sample ID			TP5A_0.14-0.23	TP5A_0.3-0.4	TP5B_0.1-0.2	TP02B_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15951	S19-Jl15952	S19-Jl15953	S19-Jl15956
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
Total MAH*	0.5	mg/kg	< 0.5	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	117	-	-	120
Toluene-d8 (surr.)	1	%	103	-	-	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	150
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	150
TRH >C16-C34	100	mg/kg	3300	< 100	6400	5700
TRH >C34-C40	100	mg/kg	580	< 100	1900	1600
TRH >C10-C40 (total)*	100	mg/kg	3880	< 100	8300	7450
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	100	< 0.5	12	140
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	100	0.6	12	140
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	100	1.2	12	140
Acenaphthene	0.5	mg/kg	1.9	< 0.5	< 0.5	1.0
Acenaphthylene	0.5	mg/kg	5.3	< 0.5	0.7	10
Anthracene	0.5	mg/kg	38	< 0.5	1.3	18
Benz(a)anthracene	0.5	mg/kg	82	< 0.5	8.6	91
Benzo(a)pyrene	0.5	mg/kg	67	< 0.5	7.9	89
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	58	< 0.5	6.3	73
Benzo(g.h.i)perylene	0.5	mg/kg	25	< 0.5	3.2	38
Benzo(k)fluoranthene	0.5	mg/kg	56	< 0.5	6.6	68
Chrysene	0.5	mg/kg	72	< 0.5	6.7	82
Dibenz(a.h)anthracene	0.5	mg/kg	9.6	< 0.5	1.4	18
Fluoranthene	0.5	mg/kg	170	< 0.5	16	170
Fluorene	0.5	mg/kg	3.0	< 0.5	< 0.5	2.9
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	24	< 0.5	4.4	49
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8
Phenanthrene	0.5	mg/kg	98	< 0.5	5.8	68
Pyrene	0.5	mg/kg	160	< 0.5	16	190
Total PAH*	0.5	mg/kg	869.8	< 0.5	84.9	968.7
2-Fluorobiphenyl (surr.)	1	%	54	88	67	56
p-Terphenyl-d14 (surr.)	1	%	74	85	94	89
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			TP5A_0.14-0.23	TP5A_0.3-0.4	TP5B_0.1-0.2	TP02B_0.1-0.2
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl15951**	**S19-Jl15952**	**S19-Jl15953**	**S19-Jl15956**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	1	mg/kg	-	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	91	76
Tetrachloro-m-xylene (surr.)	1	%	-	-	67	59
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	91	76
Tetrachloro-m-xylene (surr.)	1	%	-	-	67	59
% Moisture	1	%	6.2	13	17	8.5
Heavy Metals						
Arsenic	2	mg/kg	2.9	2.1	5.3	3.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.6	< 0.4
Chromium	5	mg/kg	6.1	12	13	9.0
Copper	5	mg/kg	140	< 5	43	100
Lead	5	mg/kg	130	8.3	1300	74
Mercury	0.1	mg/kg	0.2	< 0.1	0.4	0.2
Nickel	5	mg/kg	9.8	< 5	9.9	16
Zinc	5	mg/kg	550	43	610	83

Client Sample ID			QC01	TP4B_0.0-0.1	TP4B_0.2-0.3	TP2A_0.05-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15957	S19-Jl15958	S19-Jl15959	S19-Jl15960
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	-
TRH C10-C14	20	mg/kg	< 20	-	< 20	-
TRH C15-C28	50	mg/kg	4500	-	< 50	-
TRH C29-C36	50	mg/kg	3800	-	< 50	-
TRH C10-36 (Total)	50	mg/kg	8300	-	< 50	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	114	-	77	-
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	-	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	-	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	-	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	-	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	-	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	-	-
Allyl chloride	0.5	mg/kg	< 0.5	-	-	-
Benzene	0.1	mg/kg	< 0.1	-	-	-
Bromobenzene	0.5	mg/kg	< 0.5	-	-	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	-	-
Bromoform	0.5	mg/kg	< 0.5	-	-	-
Bromomethane	0.5	mg/kg	< 0.5	-	-	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	-	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	-	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	-	-
Chloroethane	0.5	mg/kg	< 0.5	-	-	-
Chloroform	0.5	mg/kg	< 0.5	-	-	-
Chloromethane	0.5	mg/kg	< 0.5	-	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-

Client Sample ID			QC01	TP4B_0.0-0.1	TP4B_0.2-0.3	TP2A_0.05-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15957	S19-Jl15958	S19-Jl15959	S19-Jl15960
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Volatile Organics						
Dibromochloromethane	0.5	mg/kg	< 0.5	-	-	-
Dibromomethane	0.5	mg/kg	< 0.5	-	-	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
Iodomethane	0.5	mg/kg	< 0.5	-	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Styrene	0.5	mg/kg	< 0.5	-	-	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	-	-
Trichloroethene	0.5	mg/kg	< 0.5	-	-	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	-	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
Total MAH*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	-	-
4-Bromofluorobenzene (surr.)	1	%	114	-	-	-
Toluene-d8 (surr.)	1	%	93	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	-	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	-
TRH >C10-C16	50	mg/kg	< 50	-	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	-
TRH >C16-C34	100	mg/kg	7100	-	< 100	-
TRH >C34-C40	100	mg/kg	2400	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	9500	-	< 100	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	110	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	110	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	110	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	6.5	-	< 0.5	-
Anthracene	0.5	mg/kg	12	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	77	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	76	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	56	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	30	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	57	-	< 0.5	-
Chrysene	0.5	mg/kg	63	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	14	-	< 0.5	-
Fluoranthene	0.5	mg/kg	130	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	41	-	< 0.5	-

Client Sample ID			QC01	TP4B_0.0-0.1	TP4B_0.2-0.3	TP2A_0.05-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15957	S19-Jl15958	S19-Jl15959	S19-Jl15960
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	41	-	< 0.5	-
Pyrene	0.5	mg/kg	140	-	< 0.5	-
Total PAH*	0.5	mg/kg	743.5	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	51	-	88	-
p-Terphenyl-d14 (surr.)	1	%	78	-	83	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	2.5	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	2.5	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	2.5	-	< 0.1
Dibutylchlorendate (surr.)	1	%	55	92	-	90
Tetrachloro-m-xylene (surr.)	1	%	52	61	-	64
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	55	92	-	90
Tetrachloro-m-xylene (surr.)	1	%	52	61	-	64
% Moisture	1	%	7.0	16	11	5.5

Client Sample ID			QC01	TP4B_0.0-0.1	TP4B_0.2-0.3	TP2A_0.05-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15957	S19-Jl15958	S19-Jl15959	S19-Jl15960
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.4	-	3.7	-
Cadmium	0.4	mg/kg	< 0.4	-	0.4	-
Chromium	5	mg/kg	10.0	-	10	-
Copper	5	mg/kg	120	-	19	-
Lead	5	mg/kg	180	-	2700	-
Mercury	0.1	mg/kg	0.2	-	1.0	-
Nickel	5	mg/kg	23	-	< 5	-
Zinc	5	mg/kg	120	-	1200	-

Client Sample ID			TP2A_0.2-0.3	TP4A_0.0-0.1	TP4A_0.2-0.3
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15961	S19-Jl15962	S19-Jl15963
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	-	< 50
BTEX					
Benzene	0.1	mg/kg	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	67	-	75
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.5	-	11
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.9	-	11
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	11
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	1.3
Anthracene	0.5	mg/kg	< 0.5	-	2.8
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	8.8
Benzo(a)pyrene	0.5	mg/kg	0.5	-	7.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	5.3
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	3.3

Client Sample ID			TP2A_0.2-0.3	TP4A_0.0-0.1	TP4A_0.2-0.3
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Jl15961	S19-Jl15962	S19-Jl15963
Date Sampled			Jul 11, 2019	Jul 11, 2019	Jul 11, 2019
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	6.1
Chrysene	0.5	mg/kg	< 0.5	-	6.9
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	1.3
Fluoranthene	0.5	mg/kg	1.0	-	17
Fluorene	0.5	mg/kg	< 0.5	-	0.6
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	3.1
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	12
Pyrene	0.5	mg/kg	0.9	-	17
Total PAH*	0.5	mg/kg	2.4	-	92.7
2-Fluorobiphenyl (surr.)	1	%	77	-	77
p-Terphenyl-d14 (surr.)	1	%	74	-	74
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-
Toxaphene	1	mg/kg	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	99	-
Tetrachloro-m-xylene (surr.)	1	%	-	67	-
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	-

Client Sample ID			TP2A_0.2-0.3	TP4A_0.0-0.1	TP4A_0.2-0.3
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Jl15961**	**S19-Jl15962**	**S19-Jl15963**
Date Sampled			**Jul 11, 2019**	**Jul 11, 2019**	**Jul 11, 2019**
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Dibutylchlorendate (surr.)	1	%	-	99	-
Tetrachloro-m-xylene (surr.)	1	%	-	67	-
% Moisture	1	%	3.0	25	11
Heavy Metals					
Arsenic	2	mg/kg	27	-	6.5
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4
Chromium	5	mg/kg	16	-	16
Copper	5	mg/kg	10.0	-	25
Lead	5	mg/kg	14	-	210
Mercury	0.1	mg/kg	< 0.1	-	0.4
Nickel	5	mg/kg	6.2	-	< 5
Zinc	5	mg/kg	43	-	260

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B6			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jul 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jul 17, 2019	14 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jul 17, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Melbourne	Jul 17, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
- Method:			
Volatile Organics	Melbourne	Jul 17, 2019	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
% Clay	Brisbane	Jul 15, 2019	0 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Melbourne	Jul 16, 2019	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Eurofins | mgt Suite B7			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jul 17, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Eurofins | mgt Suite B13			
Organochlorine Pesticides	Melbourne	Jul 17, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Melbourne	Jul 17, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Jul 16, 2019	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 17, 2019	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Melbourne	Jul 11, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Site # 23736

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

Project Name: SIFS
Project ID: 56262

Order No.:
Report #: 665365
Phone: 02 8245 0300
Fax:

Received: Jul 11, 2019 5:00 PM
Due: Jul 18, 2019
Priority: 5 Day
Contact Name: Daniel Denaro

Eurofins | mgt Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	TP1A_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15943		X						X		X	
2	TP1B_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15944		X					X	X		X	
3	TP1B_0.4-0.5	Jul 11, 2019		Soil	S19-Jl15945								X			X
4	TP1B_0.6-0.7	Jul 11, 2019		Soil	S19-Jl15946	X				X			X	X		
5	TP3A_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15947		X						X		X	
6	TP3A_0.6-0.65	Jul 11, 2019		Soil	S19-Jl15948	X				X			X	X		
7	TP3B_0.15-0.2	Jul 11, 2019		Soil	S19-Jl15949		X					X	X			
8	TP3B_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15950								X		X	
9	TP5A_0.14-0.23	Jul 11, 2019		Soil	S19-Jl15951		X					X	X		X	

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Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
10	TP5A_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15952								X		X	
11	TP5B_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15953		X				X		X		X	
12	TP01B_FRAG 01	Jul 11, 2019		Building Materials	S19-Jl15954			X								
13	TP01B_FRAG 02	Jul 11, 2019		Building Materials	S19-Jl15955			X								
14	TP02B_0.1-0.2	Jul 11, 2019		Soil	S19-Jl15956		X				X	X	X		X	
15	QC01	Jul 11, 2019		Soil	S19-Jl15957		X				X	X	X		X	
16	TP4B_0.0-0.1	Jul 11, 2019		Soil	S19-Jl15958						X		X			
17	TP4B_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15959		X						X		X	
18	TP2A_0.05-0.2	Jul 11, 2019		Soil	S19-Jl15960						X		X			
19	TP2A_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15961		X						X		X	
20	TP4A_0.0-0.1	Jul 11, 2019		Soil	S19-Jl15962						X		X			

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Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
21	TP4A_0.2-0.3	Jul 11, 2019		Soil	S19-Jl15963		X						X		X	
22	TP1A_0.3-0.38	Jul 11, 2019		Soil	S19-Jl15989				X							
23	TP1A_0.38-0.42	Jul 11, 2019		Soil	S19-Jl15990				X							
24	TP1A_0.5-0.6	Jul 11, 2019		Soil	S19-Jl15991				X							
25	TP1A_0.6-0.7	Jul 11, 2019		Soil	S19-Jl15992				X							
26	TP1B_0.0-0.2	Jul 11, 2019		Soil	S19-Jl15993				X							
27	TP3A_0.17-0.2	Jul 11, 2019		Soil	S19-Jl15994				X							
28	TP3B_0.1-0.13	Jul 11, 2019		Soil	S19-Jl15995				X							
29	TP3B_1.0-1.1	Jul 11, 2019		Soil	S19-Jl15996				X							
30	TP5A_0.1-0.14	Jul 11, 2019		Soil	S19-Jl15997				X							
31	TP5A_0.5-0.6	Jul 11, 2019		Soil	S19-Jl15998				X							

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Sample Detail						% Clay	Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Eurofins | mgt Suite B13	Volatile Organics	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7	Eurofins | mgt Suite B6
Melbourne Laboratory - NATA Site # 1254 & 14271									X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217							X	X								
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
32	TP5B_0.3-0.4	Jul 11, 2019		Soil	S19-Jl15999				X							
33	TP5B_0.6-0.7	Jul 11, 2019		Soil	S19-Jl16000				X							
34	TP02B_0.5-0.6	Jul 11, 2019		Soil	S19-Jl16001				X							
35	TP04B_0.5-0.6	Jul 11, 2019		Soil	S19-Jl16002				X							
36	TP02A_0.4-0.5	Jul 11, 2019		Soil	S19-Jl16003				X							
37	TP04A_0.4-0.5	Jul 11, 2019		Soil	S19-Jl16004				X							
Test Counts						2	11	2	16	2	6	5	19	2	12	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
% Clay	%	< 1			1	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	118			70-130	Pass	
TRH C10-C14	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	100			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total	%	97			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	87			70-130	Pass	
1.1.1-Trichloroethane	%	82			70-130	Pass	
1.2-Dichlorobenzene	%	105			70-130	Pass	
1.2-Dichloroethane	%	86			70-130	Pass	
Benzene	%	108			70-130	Pass	
Ethylbenzene	%	112			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Toluene	%	109			70-130	Pass	
Trichloroethene	%	103			70-130	Pass	
Xylenes - Total	%	105			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	94			70-130	Pass	
TRH C6-C10	%	115			70-130	Pass	
TRH >C10-C16	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	96			70-130	Pass	
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	100			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	110			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	98			70-130	Pass	
Fluorene	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	102			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	99			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	104			70-130	Pass	
4.4'-DDE	%	94			70-130	Pass	
4.4'-DDT	%	77			70-130	Pass	
a-BHC	%	93			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-BHC	%	79			70-130	Pass	
d-BHC	%	86			70-130	Pass	
Dieldrin	%	88			70-130	Pass	
Endosulfan I	%	95			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	82			70-130	Pass	
Endrin	%	109			70-130	Pass	
Endrin aldehyde	%	76			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-BHC (Lindane)	%	98			70-130	Pass	
Heptachlor	%	94			70-130	Pass	
Heptachlor epoxide	%	89			70-130	Pass	
Hexachlorobenzene	%	99			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	118			70-130	Pass	
LCS - % Recovery							
% Clay	%	100			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	99			80-120	Pass	
Cadmium	%	95			80-120	Pass	
Chromium	%	102			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper			%	102			80-120	Pass	
Lead			%	102			80-120	Pass	
Mercury			%	84			75-125	Pass	
Nickel			%	100			80-120	Pass	
Zinc			%	100			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M19-Jl21932	NCP	%	93			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M19-Jl21932	NCP	%	88			70-130	Pass	
Toluene	M19-Jl21932	NCP	%	93			70-130	Pass	
Ethylbenzene	M19-Jl21932	NCP	%	101			70-130	Pass	
m&p-Xylenes	M19-Jl21932	NCP	%	95			70-130	Pass	
o-Xylene	M19-Jl21932	NCP	%	105			70-130	Pass	
Xylenes - Total	M19-Jl21932	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M19-Jl21932	NCP	%	107			70-130	Pass	
TRH C6-C10	M19-Jl21932	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Jl15202	NCP	%	84			70-130	Pass	
Acenaphthylene	S19-Jl15202	NCP	%	89			70-130	Pass	
Anthracene	S19-Jl15202	NCP	%	90			70-130	Pass	
Benz(a)anthracene	S19-Jl15202	NCP	%	89			70-130	Pass	
Benzo(a)pyrene	S19-Jl15202	NCP	%	81			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Jl15202	NCP	%	84			70-130	Pass	
Benzo(g.h.i)perylene	S19-Jl15202	NCP	%	71			70-130	Pass	
Benzo(k)fluoranthene	S19-Jl15202	NCP	%	86			70-130	Pass	
Chrysene	S19-Jl15202	NCP	%	86			70-130	Pass	
Dibenz(a.h)anthracene	S19-Jl15202	NCP	%	71			70-130	Pass	
Fluoranthene	S19-Jl15202	NCP	%	89			70-130	Pass	
Fluorene	S19-Jl15202	NCP	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Jl15202	NCP	%	72			70-130	Pass	
Naphthalene	S19-Jl15202	NCP	%	86			70-130	Pass	
Phenanthrene	S19-Jl15202	NCP	%	82			70-130	Pass	
Pyrene	S19-Jl15202	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M19-Jl16676	NCP	%	118			70-130	Pass	
1.1.1-Trichloroethane	M19-Jl16676	NCP	%	118			70-130	Pass	
1.2-Dichlorobenzene	M19-Jl16676	NCP	%	103			70-130	Pass	
1.2-Dichloroethane	M19-Jl16676	NCP	%	117			70-130	Pass	
Trichloroethene	M19-Jl16676	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M19-Jl18417	NCP	%	79			70-130	Pass	
4.4'-DDD	M19-Jl18417	NCP	%	107			70-130	Pass	
4.4'-DDE	M19-Jl18417	NCP	%	85			70-130	Pass	
4.4'-DDT	K19-Jl12955	NCP	%	94			70-130	Pass	
a-BHC	M19-Jl18417	NCP	%	99			70-130	Pass	
Aldrin	M19-Jl18417	NCP	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-BHC	M19-Jl18417	NCP	%	103			70-130	Pass	
d-BHC	M19-Jl18417	NCP	%	91			70-130	Pass	
Dieldrin	M19-Jl18417	NCP	%	91			70-130	Pass	
Endosulfan I	M19-Jl18417	NCP	%	97			70-130	Pass	
Endosulfan II	M19-Jl18417	NCP	%	90			70-130	Pass	
Endosulfan sulphate	M19-Jl18417	NCP	%	80			70-130	Pass	
Endrin	M19-Jl18091	NCP	%	96			70-130	Pass	
Endrin aldehyde	M19-Jl18091	NCP	%	126			70-130	Pass	
Endrin ketone	M19-Jl18417	NCP	%	101			70-130	Pass	
g-BHC (Lindane)	M19-Jl18417	NCP	%	111			70-130	Pass	
Heptachlor	M19-Jl18417	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M19-Jl18417	NCP	%	76			70-130	Pass	
Hexachlorobenzene	M19-Jl18417	NCP	%	79			70-130	Pass	
Methoxychlor	K19-Jl12955	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S19-Jl15901	NCP	%	100			70-130	Pass	
Aroclor-1260	S19-Jl15901	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Jl15957	CP	%	107			75-125	Pass	
Cadmium	S19-Jl15957	CP	%	105			75-125	Pass	
Chromium	S19-Jl15957	CP	%	106			75-125	Pass	
Copper	S19-Jl15957	CP	%	121			75-125	Pass	
Lead	S19-Jl15957	CP	%	210			75-125	Fail	Q08
Mercury	S19-Jl15957	CP	%	112			70-130	Pass	
Nickel	S19-Jl15957	CP	%	97			75-125	Pass	
Zinc	S19-Jl15957	CP	%	194			75-125	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S19-Jl15959	CP	%	99			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S19-Jl15959	CP	%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M19-Jl21931	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M19-Jl17830	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-Jl17830	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M19-Jl17830	NCP	mg/kg	92	78	17	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M19-Jl21931	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M19-Jl21931	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M19-Jl21931	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M19-Jl21931	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M19-Jl21931	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M19-Jl21931	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M19-Jl21931	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M19-Jl21931	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M19-Jl17830	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M19-Jl17830	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M19-Jl17830	NCP	mg/kg	130	110	13	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-Jl17836	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Jl15943	CP	%	3.3	3.2	4.0	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Carbon disulfide	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	M19-Jl14709	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	B19-Jn06717	NCP	%	7.5		<1	30%	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	M19-Jl17931	NCP	uS/cm	64	62	3.0	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	M19-Jl17931	NCP	pH Units	5.6	5.6	pass	30%	Pass	
Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	S19-Jl20000	NCP	meq/100g	15	13	8.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-Jl18420	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M19-Jl18420	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S19-Jl15014	NCP	mg/kg	4.5	3.7	19	30%	Pass	
Aroclor-1260	S19-Jl15014	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S19-Jl15014	NCP	mg/kg	4.5	3.7	19	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Jl15953	CP	%	17	17	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Jl15956	CP	mg/kg	3.0	2.9	5.0	30%	Pass	
Cadmium	S19-Jl15956	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Jl15956	CP	mg/kg	9.0	8.2	10	30%	Pass	
Copper	S19-Jl15956	CP	mg/kg	100	120	14	30%	Pass	
Lead	S19-Jl15956	CP	mg/kg	74	78	5.0	30%	Pass	
Mercury	S19-Jl15956	CP	mg/kg	0.2	0.1	15	30%	Pass	
Nickel	S19-Jl15956	CP	mg/kg	16	14	14	30%	Pass	
Zinc	S19-Jl15956	CP	mg/kg	83	96	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Jl15957	CP	mg/kg	3.4	3.7	7.0	30%	Pass	
Cadmium	S19-Jl15957	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Jl15957	CP	mg/kg	10.0	11	7.0	30%	Pass	
Copper	S19-Jl15957	CP	mg/kg	120	130	6.0	30%	Pass	
Lead	S19-Jl15957	CP	mg/kg	180	190	6.0	30%	Pass	
Mercury	S19-Jl15957	CP	mg/kg	0.2	0.2	7.0	30%	Pass	
Nickel	S19-Jl15957	CP	mg/kg	23	25	7.0	30%	Pass	
Zinc	S19-Jl15957	CP	mg/kg	120	130	7.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Appendix I Quality Assurance Quality Control Information

I1.1 Quality Assurance / Quality Control Summary

Analysis of the QA/QC has been undertaken for the analytical results as summarised in **Table I.1** and discussed below.

Table I.1 QA/QC Results Summary

Data Quality Indicator	Results	DQI met?
Precision		
Blind duplicates (intra laboratory)	0-141 % RPD Intra laboratory samples were analysed at a rate greater than 1 in 20 samples for chemical COPCs.	Partial[1]
Split duplicates (inter laboratory)	0-86 % RPD Inter laboratory samples were analysed at a rate greater than 1 in 20 samples for chemical COPCs.	Partial[1]
Laboratory duplicates	0-108 % RPD Intra laboratory samples were analysed at a rate greater than 1 in 20 samples.	Yes
Accuracy		
Surrogate spikes	49.6-145 % Recovery Surrogate spikes were completed for all organic samples	Partial[1]
Laboratory Control Samples	69-120 % Recovery Laboratory control samples were completed for all organic and metals samples	Partial[1]
Matrix spikes	71-210 % Recovery Matrix spikes were completed for all organic and metals samples	Partial[1]
Representativeness		
Sampling appropriate for media and analytes	All sampling conducted in accordance with JBS&G procedures	Yes
Samples extracted and analysed within holding times.	Yes	Yes
Trip spikes	70-130 %	Yes
Trip blanks	<LOR	Yes
Rinsate blank	<LOR	Yes
Comparability		
Standard operating procedures used for sample collection & handling	Three JBS&G field scientists used standard operating procedures throughout works.	Yes
Standard analytical methods used	Standard analytical methods used as listed detailed in **Appendix I**	Yes
Consistent field conditions, sampling staff and laboratory analysis	Sampling was conducted by three field staff members using standard operating procedures in the same conditions throughout the works. The laboratories remained consistent throughout the investigation.	Yes
Limits of reporting appropriate and consistent	Limits of reporting were consistent and appropriate.	Yes
Completeness		
Soil description & Chains of Custody completed	All field logs and Chain of Custody documentation was completed appropriately.	Yes
Appropriate documentation	All appropriate field documentation processes were undertaken. Calibration/ Decontamination records are included as **Appendix K**.	Yes
Satisfactory frequency/result for QC samples	The QC results are considered adequate for the purposes of the investigation.	Yes
Data from critical samples is considered valid	Data from critical samples is considered valid.	Yes
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	Appropriate laboratory analysis methods and detection limits were considered to have been	Yes

Data Quality Indicator	Results	DQI met?
	achieved during the field and laboratory phases of this investigation.	

1. See discussion of DQI exceedances below.

I1.2 Precision

Two primary soil samples were split into an intra- and inter-laboratory duplicate (TP09 0.2-0.3, QA02 and QC02 and TP02B 0.1-0.2, QA01 and QC01). Soil inter- and intra-lab duplicate samples were analysed for COPCs at greater than 1 per 20 primary sample, achieving the minimum frequency of 1 duplicate per 20 primary samples for all relevant analytes.

Concentrations of COPCs reported in intra and inter laboratory duplicate samples were generally within the acceptable limits of deviation from the primary samples for all analytes. Exceptions are listed in **Appendix I**. The RPDs for the intra-laboratory and inter-laboratory duplicates are considered to be the result of heterogeneity in the material sampled. The elevated RPD results are considered not to have adversely affected the data set for the purpose of making decisions identified in **Section 6.1.2.**

Laboratory Duplicates

28 laboratory duplicate samples were prepared and analysed for relevant COPCs. Several RPDs were reported to be outside the acceptable 50 % RPD range. Exceptions are listed in **Appendix I.** Similar to the field duplicate RPDs, the RPDs for the laboratory duplicates are considered to be the result of heterogeneity in the material sampled, and the higher values have been adopted for the purpose of comparison with site assessment criteria. Therefore, the elevated RPD results are considered not to have adversely affected the data set for the purpose of making decisions identified in **Section 6.1.2.**

Review of DQIs indicate that the DQO have been achieved with respect to precision of the data set.

I1.3 Accuracy

Surrogate spikes were conducted on samples analysed for organic COPCs. Spike recoveries were generally within the acceptable range of 70-130 % for primary samples analysed, those that fell outside the acceptable range are not considered to affect the reliability of that data generated as they fell within the NATA accredited laboratory limit of 50-150%.

51 laboratory control samples were analysed alongside the dataset. Laboratory control sample recoveries were generally within the acceptable range of 70-130 % for primary samples analysed, those that fell outside the acceptable range are not considered to affect the reliability of that data generated as they fell within the NATA accredited laboratory limit of 50-150%.

52 matrix spikes were analysed alongside the dataset. Matrix spike recoveries were generally within the acceptable range of 70-130 % for primary samples analysed, those that fell outside the acceptable range generally fell within the NATA accredited laboratory limit of 50-150%. Some sample were reported outside the laboratory acceptable range, however it is noted that an acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

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

I1.4 Representativeness

Sample Holding Time

All samples were analysed within holding times specified in **Table 6.2** and as per the relevant NATA accredited methodology requirements.

Rinsate Samples

A rinsate sample was collected following decontamination of all non-disposable sampling equipment. Analyte concentrations were not detected above the laboratory limit of reporting (LOR) in the rinsate samples. On this basis, no evidence for cross contamination between sample locations has been identified. Decontamination records are presented in **Appendix K**.

Trip Spike, Trip Blank and Laboratory Blank Samples

A trip spike was submitted with the laboratory batch. Trip spike recoveries for organic analytes was within the acceptable limit of 70-130 %.

A trip blank was submitted with the laboratory batch. No organic analytes were detected above the laboratory LOR within the trip blank.

No contaminants were detected within method blanks at concentrations above the laboratory LOR for all analytes.

Decontamination Procedure

All field equipment was decontaminated appropriately as per the procedure identified in **Section 6.2.1**. Collected samples were immediately placed into the sample containers, sealed and then placed into chilled eskies to minimise volatile loss.

Summary of Representativeness

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

I1.5 Comparability

Eurofins, the primary laboratory, and Envirolab Services, the secondary laboratory, were NATA accredited for all analytical methods used. The laboratories used similar analytical methods and the analytical data were comparable between laboratories as indicated by the results of duplicate analysis.

The sampling methodology utilised for the assessment was consistent, as conducted by experienced JBS&G personnel in accordance with standard JBS&G sampling methods.

I1.6 Completeness

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

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

I1.7 Sensitivity

The adopted soil analytical methods provided suitable LORs for the purpose of making decisions identified in **Section 7.1.2**.

I1.8 QA/QC Conclusions

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

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

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

Appendix J Asbestos Clearance Certificate for Trench 1

JBS&G 56262-123139
L001 (Trench 1 - Visual Asbestos Clearance) - Rev 0

11 July 2019

Sheena Duggan
Senior Project Manager
Johnstaff Projects Pty
Via email: sheena.duggan@johnstaff.com.au

Archaeological Investigation Trench 1– Visual Asbestos Clearance Inspection, Fort Street Public School

Dear Sheena,

1. Introduction

JBS&G Australia Pty Ltd (JBS&G) was engaged by Schools Infrastructure NSW (SINSW, the client) to provide environmental services at the Fort Street Public School located at Upper Fort Street, Observatory Hill, Miller Point, NSW, 2000 (the site). The site is legally identified as Lot 2 of DP 244444, Lot 2, 3, 4 and 9 of DP 732592, Lot 106 of DP 748340, Lot 107 of DP 748340, Lot 108 of DP 748340, and Lot 5 of DP 258013 and covers an area of approximately 5,700 m^2. The site layout is shown in **Figure 1 Attachment 2.**

It is understood that the site contains potentially significant archaeological items, currently the subject of archaeological investigation works by Curio Projects (Curio). During site works, managed by Johnstaff Projects Pty (Johnstaff), several trenches were excavated across the site. Upon excavating Trench 1 in a carpark area near the western site boundary (refer **Figure 1 Attachment 2**), Curio discovered three fragments of suspected bonded Asbestos Containing Material (ACM) in fill material. Following the Unexpected Finds protocol of the Asbestos Management Plan (AMP) for NSW Government Schools[1], excavation work ceased and Johnstaff contacted JBS&G as asbestos assessors (hygienist) and directed JBS&G to complete a visual clearance inspection of the open trench prior to continuing of works.

A suitably qualified and experienced JBS&G environmental consultant trained in the identification of asbestos (i.e. competent person) completed the visual inspection on the southern end of Trench 1 (**Photographs Attachment 3**) and removed the three fragment samples for laboratory analysis. As the fragments were observed to be non-friable it was considered appropriate that following a visual confirmation that no more exposed ACM was present in the trench, works could continue.

The Limitations included in **Attachment 1** apply to the advice provided herein.

[1] *Asbestos Management Plan for NSW Government Schools* – November 2015.

2. Site and Clearance Area Details

Client Site Contact Details	
Client Name	Johnstaff Projects Pty
Client Contact	Sheena Duggan
Site and Clearance Area	
Lot/DP	Lot 3 of DP 732592
Site Address/Location	Upper Fort Street, Observatory Hill, Miller Point, NSW, 2000
Description of Specific Clearance Area	Trench 1, refer **Figure 1, Attachment 2** and **Photographs**, **Attachment 3**.

3. Asbestos Clearance Inspection Details

JBS&G Clearance Inspection Details	
Date of clearance inspection	10 July 2019
JBS&G Licensed Asbestos Assessor	NA
JBS&G Competent Person	Ryan Lill (Supervise Asbestos Removal CPCCBC4051A)
Clearance Inspection Methodology	Discussion with Curio workers about the location of the discovered potential ACM. The exposed ground surfaces inside the trench excavation were inspected for the presence of visible asbestos containing materials (ACM). Three ACM fragments were identified (TP01B_FRAG01 , TP01B_FRAG02 and TP1B_FRAG03), were removed and submitted for laboratory analysis. The trench surfaces were reinspected to confirm no further visible ACM.
Exclusions	This clearance applies to the described trench at the time of inspection only and does not apply to areas of the site other than that described in **Section 2** and/or shown in photographs. This clearance does not apply to any inaccessible areas or to the sub-surface within the designated area. Refer Limitations, **Attachment 1**.

4. Visual Clearance Inspection Results

Visual Clearance Outcome/Action	Yes/No	Comments
Were any areas not able to be inspected?	No	All accessible surface areas were inspected.
Following visual inspection of accessible ground surfaces within the clearance area noted above, was any visible ACM observed?	No	No visible ACM was observed on the surface of the soil. Photographs included as **Attachment 3.**
Can the cleared area be re-occupied?	Yes	Suitable for any works under normal conditions.
Is ongoing asbestos management required in the cleared area?	Yes	Should potential ACM be identified at any stage, the site Asbestos Management Plan and Unexpected Finds Protocol included within the AMP is to be implemented.
Is any additional information attached?	No	
Has any asbestos in soil sampling been conducted to supplement the clearance inspection?	No	

5. Conclusions

Based on the information presented herein, and the **Limitations** in **Attachment 1**, JBS&G conclude that the area is considered safe for continued works under normal conditions to recommence, subject to ongoing implementation of the site Asbestos Management Plan and Unexpected Finds Protocol within the AMP for NSW Government Schools.

In the event that suspected asbestos or other potential contaminants are encountered subsequent to this advice, works should cease and the JBS&G site representative contacted.

Should you require clarification, please contact the undersigned on 0468 771 734 or by email rlill@jbsg.com.au.

Yours sincerely:



Ryan Lill
Environmental Consultant

JBS&G Australia Pty Ltd

Reviewed/Approved by:



Matthew Bennett
Principal - Contaminated Land

JBS&G Australia Pty Ltd

Attachments:

(1) Limitations
(2) Figure
(3) Photographs

Attachment 1 – Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties. JBS&G accepts no liability for incomplete or inaccurate information provided to JBS&G by the client or other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in the type of assessment works being reviewed, and should not be used for any other purpose beyond which it was intended.

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Conclusions arising from the review and assessment of data are based on the scope of work considered appropriate based on the regulatory requirements and relevant codes of practice. Within the limitations of the scope of services, the work reported herein has been performed in a professional manner in accordance with generally accepted industry standards and using a degree of skill and care ordinarily exercised by members of its profession.

Inspections were limited to inspection of visible and accessible ground surfaces only in the designated area.

Changes to the surface conditions may occur subsequent to the investigations described herein, through natural processes such as rain, surface water runoff and wind, through the intentional or accidental disturbance of ground surfaces such as vehicle and pedestrian movement, excavation or failure of sediment and erosion controls, and/or through addition of materials/contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the status of the site, and it is limited to the scope defined herein. Should additional information become available regarding conditions at the site, JBS&G reserves the right to review the report in the context of the additional information. This may require JBS&G undertaking further inspection, and possible sampling, analysis and reporting to verify additional information. Such additional works will only be completed following mutual written agreement between JBS&G and the client.

Attachment 2 – Figure



Legend:

Approximate Site Boundary

Trench 1

JBS&G

Job No: 56262

Client: School Infrastructure NSW

Version: R01 Rev A	Date 11/07/2019
Drawn By: RL	Checked By: MB

Scale 1:750

0 9 18

metres

Coord. Sys. GDA 1994 MGA Zone 56

Upper Fort Street, Observatory Hill Millers Point, NSW

SITE LAYOUT AND CLEARANCE AREA

FIGURE 1

File Name: N:\Projects\School Infrastructure\56262 Fort Street PS\GIS\Maps\R01 Rev A\56262_02_SiteLay.mxd
Reference: Nearmap - nearmap.com.au - Imagery 01-07-2019

Attachment 3 – Photographs

SUSPECTED ACM FRAGMENTS



SOUTHERN PORTION OF TRENCH 1 (FACING WEST)



FILL TRENCH 1



TRENCH 1 FILL (FACING EAST



JBS&G

Job No: 56262	
Client: Johnstaff Projects Pty	
Version: L01 Rev A	Date: 11/7/19
Drawn By: RL	Checked By: DD
Not to Scale	
Coord. Sys n/a	

SIFS

TP01B

Trench 1, Clearance

ATTACHMENT 3: PHOTO LOG

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Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Daniel Denaro	Matthew Bennett	Matthew Bennett		09/08/2019
B	Daniel Denaro	Matthew Bennett	Matthew Bennett		15/08/2019



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