Kambala School
c/- Carmichael Tompkins Property Group

Detailed Site Investigation

Kambala School Sports Precinct
794 New South Head Road
Rose Bay, NSW

25 June 2020

58081/129431 (Rev A)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Kambala School
c/- Carmichael Tompkins Property Group
Detailed Site Investigation

Kambala School Sports Precinct

794 New South Head Road
Rose Bay, NSW

25 June 2020

58081/129431 (Rev A)
JBS&G Australia Pty Ltd

Table of Contents

List of Tables

List of Figures

Appendices

Abbreviations

Term	Definition
ACM	Asbestos Containing Material
ACD	Asbestos Containing Dust
AEC	Areas of Environmental Concern
AF/FA	Asbestos Fines / Fibrous Asbestos
B(a)P	Benzo(a)pyrene
B(a)P TEQ	Carcinogenic PAHs as benzo(a)pyrene toxicity equivalent quotient
Bgs	Below Ground Surface
BTEX	Benzene Toluene Ethylbenzene and Xylenes
CLM Act	Contaminated Land Management Act
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DP	Deposited Plan
DQI	Data Quality Indicator
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EIL/ESL	ecological investigation/screening level
EPA	NSW Environment Protection Authority
GSW	General Solid Waste
HIL/HSL	Health-based investigation/screening level
HMBS	Hazardous Material Building Survey
JBS&G	JBS&G Australia Pty Ltd
LAA	Licensed Asbestos Assessor
LCD	Lead Containing Dust
LP	Lead containing Paint
LEP	Local Environmental Plan
LPI	NSW Land Property Information
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCPs	Organochlorine Pesticides
OEH	NSW Office of Environment and Heritage (includes EPA)
PAHs	Polycyclic aromatic Hydrocarbons
PARCCS	Precision, accuracy, representativeness, comparability, completeness and sensitivity
PCBs	Polychlorinated biphenyls
PID	Photoionization detector
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance / Quality Control
RAP	Remedial Action Plan

Term	Definition
RPD	Relative Percentage Difference
RSW	Restricted Solid Waste
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SMF	Synthetic Mineral Fibre
TCLP	Total Characteristic Leaching Procedure
TEQ	Toxicity Equivalent Quotient
TPH/TRH	Total Petroleum/Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VENM	Virgin Excavated Natural Material
VOC	Volatile organic compound

Executive Summary

JBS&G Australia (JBS&G) was engaged by Kambala School (the client) via Carmichael Tomkins Property Group Pty Ltd (CTPG) to conduct a Detailed Site Investigation (DSI) at the proposed Sports Precinct redevelopment at Kambala School, 794 New South Head Road, Rose Bay, NSW (the site). The site comprised the proposed Sports Precinct redevelopment in the north-eastern portion of the school and is legally defined as part Lot 67 in Deposited Plan (DP) 2538 and Lots 1 to 7 and 9 to 12 in DP1116858. The site has an area of approximately 9000 m^2. The site location is shown in **Figure 1** and the site layout is shown in **Figure 2**.

The site currently comprises a grass sports field, hardcourt tennis courts, concrete and garden embankments adjacent to New South Head Road and a number of structures, the most significant of those being the Hawthorn Building. It is understood that the proposed development will comprise a Sports Precinct which includes synthetic playing fields below which will be two levels comprising general and common learning areas, staff areas, indoor sports courts and change rooms.

JBS&G have previously conducted a preliminary contamination assessment '*Contamination Assessment Letter*' in February 2019 (JBS&G 2019[1]) and a '*Preliminary Site Investigation*' (PSI) in March 2020 (JBS&G 2020a[2]) at the site.

Based on the previous works conducted, which included desktop background study and limited soil investigation and sampling, potential health risk associated with elevated polycyclic aromatic hydrocarbons (PAHs) in soils were identified. Other potential ecological risk associated with total recoverable hydrocarbons (TRH) and heavy metals is soils were also identified. Based on the investigation completed, additional investigation works were required to verify the preliminary findings and also to better characterise other areas of the site including comprehensive investigation of soils for inclusions of ash, asbestos containing materials (ACM) and other aesthetic issues.

As such, this DSI was commissioned to complete the recommendations of the PSI (JBS&G 2020a) and to address Secretary's Environmental Assessment Requirements (SEARs) for contamination assessment in accordance with State Environmental Planning Policy (SEPP) 55 guidelines.

JBS&G conducted the DSI field works on 7th, 20th and 21st of April 2020, which included soil sampling from 21 intrusive investigation locations using hand methods and mechanical excavation methods to observe and sample soils. Comprehensive inspection of fill soils including for the presence or absence of visible ACM or aesthetically impacted materials was also conducted.

Based on observation made from the DSI works and from the PSI (JBS&G 2020a), fill materials were observed as brown to brown-yellow and grey sands and silty sands with occasional inclusions of grass and rootlets within the sports field. Inclusions of coarse gravels, glass and plastic were observed in deeper areas of the sports field. Depth of fill within the sports field was observed as varying between 0.5 m and 5.2 m below ground surface (bgs). Fill within the embankments was observed to comprise sandy soils blended with organic materials such as foliage and planting soil mixes with inclusions of geofabric and rootlets varying in depth between 0.2 m and 1.0 m bgs.

Fill soils were underlain by natural materials comprised of yellow-brown sands and clayey sands or yellow/red/orange sandstone.

[1] *Contamination Assessment Letter – Kambala Sports Precinct, New South Head Road, Rose Bay, NSW* (Rev 0) JBS&G Australia Pty Ltd 13 February 2019 (JBS&G 2019)

[2] *Preliminary Site Investigation – Kambala School Sports Precinct 794 New South Head Road, Rose Bay, NSW (Rev A*) JBS&G Australia Pty Ltd 17 March 2020 (JBS&G 2020a)

Fill soils and site surfaces were observed to be free of any staining or odorous soils and also free of and significant amount of inclusions such as building rubble. Two isolated fragments of ACM were identified at locations HA11 and HA12 within a narrow garden strip north of the tennis courts and on the north-western boundary of the site as shown on **Figure 4**. The fragments potentially were discarded into the garden over the site fence, the fragments were collected and submitted for laboratory confirmation analysis. No further fragments including no ACM observed in fill material was identified at the site.

Samples collected from the investigation were subsequently analysed for a range of contaminants of potential concern including heavy metals, TRH/benzene toluene ethylbenzene and xylenes (BTEX), PAHs, organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and asbestos. Soil analytical results were compared against National Environmental Protection Measure (NEPC 2013) health and ecological criteria for residential with gardens/accessible soils land use which includes child care centres, preschools and primary schools.

Based on soil analytical results reported, elevated lead, carcinogenic PAHs as benzo(a)pyrene (B(a)P) toxicity equivalent quotient (TEQ) and Total PAHs were identified to exceed the adopted health-based criteria. The elevated concentrations were reported at the locations shown on **Figure 4**, and were generally limited to the following areas:

- The eastern garden embankment adjacent with the sites eastern boundary adjacent to the bend on New South Head Road; and
- The south-eastern portion of the sports field within locations BH07, BH12 and TP2 as shown on **Figure 4**. It is further noted that impact within the sports field was identified at a depth of 1.5 m or more from the surface.

Contaminant concentrations that could present a potential ecological risk were also identified. However, noting there are no ecological receptors at or nearby the site such as creeks or habitats for native flora and fauna species, protection of ecological receptors was not considered relevant for the site.

Total Characteristic Leaching Procedure (TCLP) was conducted on the highest reported concentrations of lead and PAHs. The reported results demonstrated that the lead would leach at insignificant concentrations and all TCLP PAHs concentrations were reported below the laboratory limit of reporting. The results suggest that migration of elevated PAHs and lead is not occurring.

Based on the findings of this investigation and subject to the limitations in **Section 12**, the following findings are presented:

- A comprehensive DSI has been completed to satisfy EPA endorsed guidelines and SEPP 55 planning guidelines;
- Contamination issues associated with Total PAHs and B(a)P TEQ were identified within the eastern garden embankment at locations HA01 to HA03 and HA06 to HA08. Elevated concentrations of B(a)P TEQ and lead were identified at depth within the south-eastern portion of the sports field at locations BH07, BH12 and TP2 also;
- Given no areas of ecological significance are located at or nearby the site, and the proposed redevelopment protection of ecology is not considered relevant to the site. Reported TRH concentrations within embankment areas are considered related to natural organic material in mulch/vegetation and not petroleum impact and does not pose an unacceptable risk; and
- Two fragments on non-friable ACM at locations HA11 and HA12 were identified and removed for testing. No other asbestos as AF/FA or visible ACM was identified at the site, however there is potential for ACM to be present in fill and other areas of the site.

- Despite the contamination issues identified, it is noted that there is no unacceptable risk to users of the playing field areas as the contamination in this area was at depth where there is no existing pathway whereby site users come into contact with these soils under normal surface usage. Impacted soils within the embankments are not considered to be regularly occupied by site users other than gardeners and/or maintenance works, and COPC concentrations in this area do not pose a risk under a commercial worker scenario.

Based on the conclusions present, it is considered that the site can be made suitable for the proposed redevelopment in accordance with SEPP 55 subject to preparation and implementation of a Remedial Action Plan (RAP) including an unexpected finds protocol.

1. Introduction

1.1 Background and Objectives

JBS&G Australia (JBS&G) was engaged by Kambala School (the client) via Carmichael Tomkins Property Group Pty Ltd (CTPG) to conduct a Detailed Site Investigation (DSI) at the proposed Sports Precinct redevelopment at Kambala School, 794 New South Head Road, Rose Bay, NSW (the site). The site comprised the proposed Sports Precinct redevelopment in the north-eastern portion of the school and is legally defined as part Lot 67 in Deposited Plan (DP) 2538 and Lots 1 to 7 and 9 to 12 in DP1116858. The site has an area of approximately 9000 m^2. The site location is shown in **Figure 1** and the site layout is shown in **Figure 2**.

The site currently comprises a grass sports field, hardcourt tennis courts, concrete and garden embankments adjacent to New South Head Road and a number of structures, the most significant of those being the Hawthorn Building. It is understood that the proposed development will comprise a Sports Precinct which includes synthetic playing fields below which will be two levels comprising general and common learning areas, staff areas, indoor sports courts and change rooms.

JBS&G have previously conducted works at the site as documented in Preliminary Site Investigation (PSI) JBS&G (2020a). The works included background review and intrusive soil sampling at 13 investigation locations. The investigation identified potential contamination risks associated with Benzo(a)pyrene (B(a)P) TEQ and Total PAHs which exceeded the adopted health based criteria. As such, the PSI recommended further investigation be conducted to characterise the site within areas not accessible during the PSI works and verify the findings of the PSI including delineating the extent of impacted areas where possible. As such this DSI was required to further investigate the site based on the PSI recommendations and to fulfill SEPP 55 Guidelines regarding site suitability.

The DSI has been completed in general accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) and relevant Australian Standards.

1.2 Objective

The objective of this DSI is to verify the extent of impacted soils at the site. An additional objective is to complete a comprehensive characterisation of soils within areas not previously investigated and through more comprehensive inspection methodologies such as using a backhoe to excavate testpits. Upon completion of the investigation conclusions regarding site suitability can be made including recommendations if required.

1.3 Scope of Works

The scope of works for the assessment included;

- Completion of an additional 21 locations to the PSI. locations were targeted to areas not characterised in the PSI (JBS&G 2020a) and were divided between, boreholes, testpits and handauger locations;
- Completion of comprehensive inspection and characterisation of fill materials including visual identification for the presence/absence of ash and asbestos containing materials (ACM);
- Laboratory analysis of soil samples from each location for a range of contaminants of potential concern (COPC); including, heavy metals, total recoverable hydrocarbons (TRH)/benzene toluene ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and asbestos; and

- Preparation of a DSI report in accordance with SEPP 55 guidelines to documenting the findings.

2. Site Conditions 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

Lot / DP Number	Part Lot 67 DP 2538 Lots 1 to 7 and 9 to 12 DP1116858
Street Address	794 New South Head Road, Rose Bay, NSW
Local Government Authority	Woollahra Municipal Council
Site Area	Approximately 0.9 ha
Current Zoning	SP2 Infrastructure (Educational Establishment) Woollahra Local Environmental Plan (LEP) 2014
Geographic Coordinates	E: 340202.464 (GDA94-MGA56) N: 6251480.779 (GDA94-MGA56)
Previous Land Use	School since 1913
Current Land Use	School

2.2 Site Description

A detailed site inspection was undertaken on 7th, 20th and 21st April 2020 by an experienced JBS&G environmental. The layout of the site was observed to be consistent with that described in the PSI (JBS&G 2020a). Site features observed during site inspections are shown on **Figure 2**.

The site was observed to comprise a well maintained grass sports field, with hardcourt tennis courts to the north-west. An embankment was observed on the north-eastern and eastern boundary of the site adjacent New South Head Road. The embankment comprised of sealed concrete in the north-eastern portion and of well-maintained gardens on the eastern boundary. The embankment was observed as over 5 m in height at its highest point. Use of garden products such as fertilisers and mulch was apparent in the garden embankment.

Additionally, a sports equipment store was located on the eastern end of the grass sports field and a hydrant booster and associated shed was observed in the southern corner of the site. The sports equipment store was surrounded by garden areas comprising trees, plants and rock.

The northern portion of the Hawthorn Building and the adjacent toilet block were also understood to be part of the proposed redevelopment works. The structures were still present at the time of inspection and as such investigation of surfaces and soil beneath the structures was not possible at this time. A Hazardous Building Material Survey (HMBS) was conducted on the structures and reported in JBS&G (2020b).

No staining, odours or ACM was observed on accessible site surfaces at the time of inspections. It is noted that ACM was observed within near surface soils at locations HA11 and HA12 north of the tennis courts and near the School boundary with Bayview Road. This is discussed further in **Section 9**.

2.3 Surrounding Land Use

The surrounding land uses have been identified as follows:

- North – Immediately north of the site is Bayview Hill road, followed by low-density residential properties and two schools, Kincoppal-Rose Bay School and Kincoppal-Rose Bay Junior School.
- East – Immediately east of the site is New South Head Road, followed by low-density residential properties.
- South – The majority of Kambala School buildings are located immediately south of the site. A UST was identified south of the site and adjacent to a school entrance on New South Head Road. New South Head Road and low-density residential properties were located further South.
- West – Immediately west of the site is occupied by residential housing. This is followed by Rose Bay/Sydney Harbour.

Based on the general observations of surrounding properties, it was considered the potential for contamination to be migrating onto the site from surrounding areas is low. Impact to the site associated with the UST is considered unlikely as surrounding topography and the anticipated flow of groundwater direction is anticipated to be away from the site. It is further noted that the tank is understood to be empty based on information provided by the school.

2.4 Topography

A review of the regional topographic maps using SIX maps[3] indicated that the site has an elevation of approximately 30 to 40 m Australian Height Datum (AHD). The site and surrounding area generally slopes to the south-west and towards Sydney Harbour.

The site itself is relatively level, the sports field, tennis courts and buildings have been levelled flat through historical construction. The concrete and garden embankment adjacent to New South Head Road on the sites north-eastern and eastern boundaries consist of steep slopes with New South Head Road located up to 5 m higher than the sports field in some areas.

2.5 Geology

Based on the Sydney 1:100 000 Geological Map[4], the site was located in an area underlain by Hawkesbury sandstone of the Wianamatta Group. This is typically formed in middle Triassic period and characterised by medium to coarse-grained quartz sandstone with very minor shale and laminate lenses.

Based upon the Sydney 1:100 000 Soil Landscape series[5] the site is located within the Hawkesbury soil landscape group. The landscape is generally characterised by rugged, rolling to very steep hills on Hawkesbury Sandstone with local relief between 40 – 200m.

Soils are characteristically (>50 cm), discontinuous lithosols/siliceous sands associated with rock outcrops, earthy sands, yellow earths and some yellow podzolic soils along joints and fractures, localised yellow and red podzolic soils associated with shale lenses and siliceous sands and secondary yellow earths along drainage lines.

Limitations of the Hawkesbury group include extreme soil erosion hazards, steep slopes, rock outcrops, shallow, stony, highly permeable soil and low soil fertility.

[3] SIX Maps http://maps.six.nsw.gov.au/ (accessed 22 March 2017)
[4] Sydney 1:100 000 Geological sheet 9130, 1st Edition (1991)
[5] Sydney 1:100 000 Soil Landscapes Series Sheet 9130, Soil Conservation Service of NSW (1990)

2.6 Acid Sulfate Soils

Based on review of Department of Land and water Conservation map of Sydney Heads (DLWC 1997) there are no known occurrences of acid sulfate soils at the site.

Review of the Acid Sulfate Soils Maps in Woollahra LEP (2014) indicate the site is located within a Class 5 area for acid sulfate soils. Based on this class, any works within 500 m of adjacent Class 1, 2, 3 or 4 land that is below 5 m Australian height datum required development consent.

The site is located well above 5 m AHD and development works are not anticipated to involve working down to this depth.

Given the sites elevation and based on review of acid sulfate soils maps, acid sulfate soils are considered highly unlikely to be encountered at the site.

2.7 Hydrology

No surface water bodies are located on the site. The nearest surface water body to the site is Rose Bay to the west of the site. This bay is directly part of the greater Sydney Harbour.

Rainfall that falls onto the site is likely to infiltrate into vegetated or unsealed surfaces. Rainfall which falls onto buildings or paved surfaces is anticipated to be captured in stormwater infrastructure within or adjacent to Kambala School. Surface water flow is anticipated to be to the southwest following the local topography of the area.

2.8 Hydrogeology

Registered groundwater monitoring well data was obtained from the NSW Office of Water groundwater database[6] and is provided in JBS&G (2020a).

Review of the NSW Office of Water's Groundwater database revealed there are six registered groundwater wells within 500m of the site. All wells were located southwest and downgradient of the site. Groundwater Bore information is summarised in **Table 2.2** below.

Table 2.2: Registered Groundwater Bore Search

Bore ID	Use	Property	Standing Water Level (mbgs)	Well Depth (m)	Distance from Site
GW106127	Domestic	-	2.0	4.0	168.474m
GW106407	Domestic	Collier 8 Dumaresq Road, Rose Bay	2.0	4.0	195.591m
GW107663	Domestic	-	7.625	11.59	210.332m
GW107986	Domestic	-	1.83	6.33	225.376
GW108824	Domestic	Haralambis 3 Collins Avenue, Rose Bay	2.745	6.10	398.444m
GW110857	Domestic	-	2.0	4.0	472.71m

Based on the reported geology, topography and depth to groundwater, groundwater migration is expected to be to the southwest and towards Sydney Harbour. Based on the groundwater bore search it is considered that depth of groundwater increases with distance from the Harbour. Based on this assumption and noting observation from the investigation works, the depth of groundwater at the site is anticipated to be between 7 to 10 m at the site and flow to the south-west.

[6] Office of Water's Groundwater Monitoring Overview Map http://allwaterdata.water.nsw.gov.au/water.stm (accessed 22 March 2017)

3. Site History

3.1 Aerial Photographs

Historical aerial photographs were obtained from NSW Land Property Information (LPI) and Six Maps imagery, and are provided in JBS&G (2020a). Summary of aerial photographs obtained of the site is included below:

- **1930** – The site appeared to comprise of an unsealed plot, potentially including a park or playing field. Two bare areas could be observed in the western portion of the site, the areas may have potentially been tennis courts. The area currently occupied by the Hawthorn building comprised of trees and a potential access road. Areas surrounding the site comprised New South Head Road to the east, buildings and fields of Kambala School to the west, and residential housing and associated infrastructure.
- **1943** – The site layout appeared similar to the previous image, additional structures appear to have been constructed within the school grounds including the Hawthorn Building. The density of residential housing seemed to increase in areas surrounding the site.
- **1951** – The site and surrounding areas appeared similar to the previous image.
- **1965** – The site and surrounding areas appeared similar to the previous image.
- **1979** – The site appeared similar to the previous image, the addition of a small building east of the tennis courts in the northern part of the site was observed. Surrounding areas to the site generally appeared similar to the previous image.
- **1994** – The site appeared to include two temporary buildings on the grass sports field. Remaining areas of the site and surrounding areas appeared similar to the previous image.
- **2009** – The two temporary buildings observed on the previous image had been removed. The western most tennis court appeared to have changed compared to the previous image. Installation of the rooms below the tennis courts may have occurred during this period. Buildings within the school grounds and to the east of the site had been constructed.
- **2014** – The site and surrounding areas appeared similar to the previous image.
- **2020** – The site and surrounding areas appeared similar to the previous image and as described in **Section 2.2**.

3.2 Planning Certificates

A copy of the Section 10.7 (2) & (5) Planning Certificates for part Lot 4 in DP1116858, a representative lot within the site, was obtained from the Woollahra Municipal Council. The planning certificate is provided in JBS&G (2020a) and relevant details regarding the certificate are summarised below.

- The land is subject to the requirements under the Woollahra Local Environmental Plan 2014;
- The land is zoned SP2 Infrastructure;
- The land does not comprise a critical habitat;
- The land has been identified as containing an item of environmental heritage significance;
    - Kambala School is identified as an item of General Heritage in Woollahra LEP (2014).
- The land is not affected by the Coastal Protection code under the *Coastal Protection Act 1979*;

- The land is not affected by Section 15 of the *Mine Subsidence Compensation Act 1961* proclaiming land to be a Mine Subsidence District.
- The land is not considered significantly contaminated or subject to a management order under the *Contaminated Land Management Act 1997* (CLM Act);
- The land is not subject to an approved voluntary management proposal under the CLM Act;
- The land is not the subject of a site audit statement within the meaning of the CLM Act;
- The site is not included on the loose-fill asbestos insulation register maintained under the *Home Building Act 1989*;
- The land is not bushfire prone land;
- The land is identified as "may require an assessment of acid sulfate soils", with reference to Clause 6.1 of Woollahra LEP 2014;
- The land is considered by Council to be above the 1 in 100-year mainstream flood level and is subject to flood related development controls.

3.3 EPA Records

Search of the NSW EPA's public register under the *Protection of the Environment Operations Act 1997* (POEO Act) was undertaken. The search for the site identified there were:

- No prevention, clean-up or prohibition notices;
- No transfer, variation, suspension, surrender or revocation of an environmental protection licence.

A search was also conducted through the EPA's public contaminated land register (JBS&G 2020a). The search did not identify any current or previous records of notices by the EPA, or notification to the EPA under Section 60 of the CLM Act, in relation to the site or immediately surrounding land.

3.4 Australian and NSW Heritage Register

A search of the Australian and NSW Heritage database was undertaken, and records are included in JBS&G (2020a). The search did not identify the presence of any items of state or national heritage in the vicinity of the site.

The Kambala School is noted as being an item of General Heritage as included on the Woollahra LEP (2014).

3.5 Dangerous Goods Search

A dangerous goods search was not conducted as part of the investigation and it is considered that USTs or chemical storage within the site is unlikely. It is noted that a UST has been identified as located to the south of the south-eastern portion of the site. Given the down gradient location of the UST, it is not considered an area of environmental concern for the site.

3.6 Integrity Assessment

The information obtained from the historical sources reviewed has been found to be in general agreement. It is therefore considered that the information provided in this historical assessment has an acceptable level of accuracy.

4. Previous Reports

4.1 Contamination Assessment Letter – Kambala Sports Precinct (JBS&G 2019)

JBS&G conducted a contamination assessment within the Kambala Sports Precinct in January and February 2019. The assessment was limited in nature and included soils sampling from 8 borehole locations conducted for a Geotechnical assessment. A further 5 sample locations were conducted using a hand auger. The objective of the assessments was to assess the site for potential contamination whilst also characterising materials encountered for potential offsite disposal in accordance with NSW EPA Waste Classification Guidelines (EPA 2014).

The site inspection and soil sampling were conducted on the 8th and 9th February 2019. The site was observed to comprise a well maintained sports field and surrounding gardens and embankments. No staining, odours or ACM was observed on the surface. Collected soil samples were analysed for a range of potential contaminants of concern including heavy metals TRH, BTEX, PAHs, OCPs, PCBs and asbestos.

Based on the results of the investigation**,** soils analytical concentrations were generally reported at concentrations within the criteria adopted. Elevated PAH concentrations associated with B(a)P TEQ and Total PAHs that exceeded the adopted health based criteria was identified at location HA01-0-0.1. Elevated B(a)P TEQ concentrations that exceeded the adopted health based criteria was identified at locations HA01_0.9-1.0, HA02_0-0.1 and BH07_1.5-1.6.

The concentrations were reported to present a potentially unacceptable health risk to site users through dermal contact and/or ingestion if soils are reused within the school grounds or within the sports fields and other open space areas such as gardens, particularly if they are used at or near the surface.

The concentrations were not considered to represent a potential health risk to workers (i.e. excavation and working within the impacted soils). As reduced exposure times in this scenario and added safety measures including personal protective equipment and safe working practices mean that risk to worker exposure to soils is mitigated during excavation and redevelopment works.

Potential ecological risk (to plant growth) was identified at locations HA01, HA02, HA03 and HA07, due to elevated, zinc, TRH and B(a)P. Consideration of depth and surrounding plants would need to be considered if reusing these materials.

Waste classification of site materials identified that fill materials fall within the General Solid Waste (non-putrescible) (GSW) category with the exceptions of soils at locations BH07_1.4-1.5 and HA01_0-0.1 which fall within Restricted Solid Waste (RSW) without the use of any EPA immobilisations.

It was noted that the EPA general immobilisation approval for ash may be able to be implemented, in particular at BH07_1.4-1.5 and HA01_0-0.1 subject to confirmation of ash in fill. This would allow these soils to be classified as GSW based on current non-detected TCLP results.

Natural materials were encountered beneath fill materials and consisted of yellow/orange/red sand and sandstone consistent with Virgin Excavated Natural Material (VENM).

It was recommended that further assessment should be conducted prior to development works proceeding to confirm the assessment and waste classification results and aid appropriate onsite and offsite management of fill and natural soils. These further assessments are considered in the conclusions of this report.

4.2 Preliminary Site Investigation (JBS&G 2020a)

JBS&G was engaged by the client to conduct a PSI at the proposed Sports Precinct redevelopment at Kambala School, 794 New South Head Road, Rose Bay, NSW.

The PSI was a requirement to address SEARs regarding soil and groundwater contamination and used data obtained from JBS&G (2019) discussed in **Section 4.1**. It is further noted that contamination assessment in accordance with SEPP 55 guidelines was required to demonstrate that the site is suitable or can be made suitable for the proposed use.

As such, comprehensive review of the site history and available records was completed and the data and assessment compiled in JBS&G (2019) was utilised for preparation of the PSI in accordance with SEPP 55.

Based on the desktop review including Council records, aerial photographs and EPA registers, the site was understood to have been used as a school since 1913. Kambala school was also noted to be an item of general heritage under Woollahra Local Environmental Plan (LEP 2014).

Areas of environmental concern (AECs) identified at the site were mostly associated with significant filling to create the current levels and the garden embankment. Additionally, potential for inclusions of anthropogenic waste and ACM were also considered. Lower risk AECs identified included building footprints, a UST located south of the site and the pumping station and shed located in the southern portion of the site.

The detailed site inspection was undertaken on 8th and 9th January 2019 by an experienced JBS&G environmental consultant, with additional observations made during a Hazardous Material Survey conducted on 11th February 2019. No staining, odours or ACM was observed on the surface. Intrusive works and associated soil sampling were completed from 8 borehole locations and 5 handauger location from accessible areas within the site. Selected soil samples collected from the sampling locations conducted were analysed for a range of potential contaminants of concern including Heavy metals, TRH, BTEX, PAHs, OCPs, PCBs and asbestos.

Based on the soil analytical results reported**,** concentrations were generally reported at concentrations within the criteria adopted. Elevated PAH concentrations associated with B(a)P TEQ and Total PAHs that exceeded the adopted health based criteria were identified at locations HA01-0-0.1, HA01_0.9-1.0, HA02_0-0.1 and BH07_1.5-1.6. Additionally, potential ecological risk (to plant growth) was identified at locations HA01, HA02, HA03 and HA07, due to elevated lead, zinc, TRH and B(a)P.

Reported soil analytical concentrations including TCLP analysis, suggested that fill materials fall within the GSW (non-putrescible) category with the exceptions of soils at locations BH07_1.4-1.5 and HA01_0-0.1 which fall within RSW without the use of any EPA immobilisations. EPA immobilisation for BH07_1.4-1.5 and HA01_0-0.1 may be possible subject to confirmation of ash in fill materials.

Based on the findings of the PSI it was considered that the site can be made suitable for the proposed redevelopment in accordance with SEPP 55 subject to the following actions:

- A DSI is conducted, including soil sampling and investigation beneath current building/structures following demolition and additional works to verify the extent of potential PAHs impact identified including identifying whether ash is present within fill materials;
- The additional works should be conducted via the testpit method using an excavator to complete comprehensive inspection and characterisation of fill materials including visual identification for the presence/absence of ash and ACM;

- Assessment of soils within the south-eastern corner of the site to identify if any impact from the nearby UST has occurred will also be included; and
- Following completion of the DSI, a Remedial Action Plan (RAP) can be prepared based on the findings, if required. The RAP will also detail any management requirements based on assessment results to ensure potential health and ecological risks identified are appropriately removed or managed. The additional works will also allow Waste Classification of soils to be confirmed.

4.3 Hazardous Building Material Survey – Kambala Sports Precinct (JBS&G 2020b)

JBS&G conducted a hazardous building materials survey (HBMS) at the site.

The scope of the HBMS was limited to the northern portion of the Hawthorne Building and the structures on the sports field, that are proposed to be demolished to facilitate the Sports Precinct redevelopment. No other areas of Kambala School were surveyed as part of this HBMS.

The structures were inspected for the following hazardous materials:

- ACMs;
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing dust (LCD)
- Synthetic mineral fibres (SMF); and
- PCB.

Based on the assessment completed the following conclusions were made:

Asbestos Containing Materials

Suspected non-friable ACM were identified at the site. Prior to the demolition of the structures it was recommended that the following work are undertaken:

- A Class A or B licensed asbestos removalist shall be engaged to remove all asbestos containing materials as identified in the Hazardous Materials Register included in JBS&G (2020b). Removal and disposal of non-friable asbestos materials shall be undertaken in accordance with the *Work Health and Safety Act (*2011), *Work Health and Safety Regulation* (2017) and SafeWork NSW *How to Safety Remove asbestos* (2019).
- While not mandatory during the removal of non-friable ACM, it is considered best practice and recommended that asbestos air monitoring is undertaken during any non-friable asbestos removal works.

Following removal works, a clearance inspection shall be completed by a competent person or Licensed Asbestos Assessor (LAA) to ensure that the asbestos materials identified at the site have been removed to a satisfactory standard. Following the completion of the clearance inspection, a clearance certificate shall be issued by the competent person or LAA to confirm that the ACM has been successfully removed and that the site is suitable for planned demolition works to commence.

Lead Containing Dust

Levels of lead in dust were identified slightly above the adopted site criteria within the roof void of the Hawthorne Building. A conservative approach was recommended to be implemented to manage this identified hazard during demolition and refurbishment works.

A suitably experienced hazardous materials removal contractor should be engaged to remove the lead containing dust prior to demolition. Lead dust waste removed from education facilities is pre-classified as GSW (non-putrescible) in accordance with the EPA (2014) *Waste Classification Guidelines – Part 1: Classifying Waste.*

The roof void should remain restricted from general access until the lead dust hazard is removed.

Should the lead containing dust remain on site for an extended period of time, a lead management plan or similar should be prepared detailing the procedures and requirements to reduce the potential for lead dust exposure if site workers are required to access the hazardous area.

Lead Based Paints

Lead based paints identified in the Hazardous Materials Register should be managed in accordance with the AS4361.2-2017. If peeling or deteriorated they should be removed under controlled conditions by an experienced contractor prior to demolition. Stable lead based paints adhered to building fabric can be removed as GSW provided care is taken to minimise any potential for paint flakes to be dispersed onto ground surfaces.

Any lead paint waste removed from an education facility is pre-classified as GSW (non-putrescible) (EPA 2014).

Polychlorinated Biphenyls

No PCB materials were identified at the time of inspection.

Synthetic Mineral Fibres

SMF encountered during the inspection were generally contained and deemed to be low risk, and can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE was recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

Inaccessible Areas

Areas inaccessible during the HBMS should be inspected by a suitably qualified competent person prior to any works commencing. Suspected ACM should be sampled by a suitably qualified competent person prior to any works commencing.

Unexpected Finds

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

5. Conceptual Site Model

Based on the desktop review and observations from the site inspection, the following conceptual site model (CSM) has been developed for the site.

5.1 Potential Areas of Environmental Concern

Based on the objectives of the assessment, desktop review and observations made during the site inspection, AECs and COPCs have been identified and are presented in **Table 5.1**.

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

Area of Environmental Concern (AEC)	Contaminants of Potential Concern (COPCs)
In situ Fill materials within the sports field	Heavy metals, TRH/BTEX, PAHs, OCPs, PCBs and Asbestos
Building Footprints	Heavy metals, TRH/BTEX, PAHs, OCPs, PCBs and Asbestos
Garden embankment landscaped materials	Heavy metals, TRH/BTEX, PAHs, OCPs, PCBs and Asbestos
Pumping station and associated storage of chemicals for ground maintenance equipment	Heavy metals, TRH/BTEX, PAHs, OCPs, PCBs and Asbestos

5.2 Potentially Contaminated Media and Migration

Each of the AECs and corresponding COPCs identified in **Table 5.1** have the potential to impact soil, groundwater and/or soil vapour underlying the site.

The highest contamination risk at the site are considered to be within fill materials of unknown origin historically used to construct the sports field and surrounding embankments. Fill materials were identified as variable in depth. Fill was considerately deeper on the south-western side of the sports field where it was encountered at a depth of up to 5.2 m below the surface. The depth of fill within the embankment was generally observed from the surface to between 0.2 and 0.9 m bgs.

Fill materials have been identified as impacted with B(a)P TEQ, heavy metals and TRH. Impacts identified within fill materials in the eastern embankment are considered to be associated with gardening blends. Impacted fill materials within the south-eastern end of the sports field, were generally encountered at depths between 1.5 and 3.5 m below the surface.

Fill materials within the remaining areas of the site were generally free of chemical contamination based on the investigations completed. Two fragments of non-friable ACM were observed on the surface at the north-western site boundary and in the vicinity of HA11 and HA12.

Natural materials underlying fill materials were observed to comprise sandstone and silty sand soils at depths varying between 0.9 m and more than 5.2 m bgs. Sampling of natural materials did not identify any contamination. Additionally, leachate testing suggests that contaminants within fill soil are unlikely to be leachable and therefore migration of contaminants from fill soils and into other media is considered unlikely. Natural materials underlying the site are not considered a contaminated media and can potentially be characterised as VENM subject to confirmation inspection and sampling by an environmental consultant during earthworks,

Groundwater was not encountered during the investigations conducted. Based on the anticipated depth to groundwater at the site, between 7 and 10 m bgs, and noting the non-mobile and non-leachable contaminant concentrations identified within fill soils, groundwater is not considered to be a contaminated media at the site. It is further noted that given the urban setting of the site, groundwater is unlikely to be used as a resource anyway.

Potential groundwater impact from the UST identified south of the site has been ruled out given its distance from the site and given its downgradient position from the site.

5.3 Potential for Migration from Site

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 combination of:

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

The potential contaminants of concern identified from the investigation works are mostly limited to solids and non-mobile contaminants including asbestos (non-friable), anthropogenic materials, heavy metals, and B(a)P. Further to this leachability of heavy metals and B(a)P were confirmed to be non-leachable through TCLP analysis. As such, contaminants within fill soils are considered unlikely to migrate offsite.

The ground surface of the site is well vegetated and/or maintained or covered in handstand. As such, there is a low potential for windblown contaminants to migrate from the site.

5.4 Receptors

Potential receptors of environmental impact present within the site include:

- Future commercial/industrial workers and school students and staff who may potentially be exposed to COPCs through direct contact with impacted soils and/or ingestion and/or inhalation of dusts / fibres associated with impacted soils; and/or
- Excavation / construction / maintenance workers conducting activities at or in the vicinity of the site, who may potentially be exposed to COPCs through direct contact with impacted soils present within excavations and/or inhalation of dusts / fibres associated with impacted soils.

5.5 Preferential Pathways

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

Man-made preferential pathways may be present at the site, generally associated with fill materials at near surface depths. Fill materials are anticipated to have a higher permeability than the underlying natural soil and/or bedrock.

6. Sampling and Analysis Plan

6.1 Data Quality Objectives

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 were developed for the investigation, as discussed in the following sections.

6.1.1 State the Problem

Due to potential contamination issues identified in the PSI (JBS&G 2020a), a detailed assessment of the site including sampling and analytical program is required to confirm the extent of the preliminary findings. The DSI will draw conclusions regarding the suitability of the site for the proposed use, and make recommendation for required management procedures if necessary.

6.1.2 Identify the Decision

Based on the decision-making process for assessing urban redevelopment sites detailed in EPA (2017), modified to meet the specific project objectives, the following decisions must be made:

- Have soils been characterised to an extent where suitable conclusions can be drawn regarding the suitability of the site in accordance with SEPP 55 Guidelines?
- Has comprehensive inspection of fill materials been conducted including within areas not characterised in the PSI (JBS&G 2020a)?
- Based on the works completed are there any unacceptable risks to likely future onsite receptors from impacted soils during development?
- Are there any aesthetic concerns in fill soils present at the site?
- Is there any evidence of, or potential for, migration of contaminants off-site?
- Is the site suitable for the proposed use?

6.1.3 Identify Inputs to the Decision

Inputs to the decisions are:

- Review of previous reports;
- Historical site aerials showing detail to any activities occurring on site;
- Environmental data and site observations compiled during the investigation;
- Assessment criteria to be achieved on the site as based on the intended land use 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**.

6.1.4 Define the Study Boundaries

The approximate study boundaries are limited to the boundary as shown on **Figure 2**. The sports precinct redevelopment is understood to include the current tennis courts, sports fields and the northern portion of the Hawthorn building.

The vertical extent of the investigation was up to 5.2 m below the ground surface and into natural soils where possible.

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

6.1.5 Develop a Decision Rule

Laboratory analytical data will be assessed against EPA endorsed criteria as identified 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

Decision Required to be made	Decision Rule
1. Have soils been characterised to an extent where suitable conclusions can be drawn regarding the suitability of the site in accordance with SEPP 55 Guidelines?	Has sufficient investigation occurred to satisfy NSW EPA Sampling Design Guidelines for the site? Has characterisation sampling been conducted throughout the site including delineation of the depth of fill soils and targeting of potential areas of environmental concern identified in the PSI? If the answer to any of the questions above is No the decision is No. otherwise the answer is Yes
2. Has comprehensive inspection of fill materials been conducted including within areas not characterised in the PSI (JBS&G 2020a)?	Have locations been targeted towards areas not previously characterised? And, have fill soils within the sports field been thoroughly inspected via the testpit method? If the answer to any of the questions above is No the decision is No. otherwise the answer is Yes
3. Based on the works completed are there any unacceptable risks to likely future onsite receptors from impacted soils during development?	The nature and extent of soil impacts will be assessed, and soil analytical data will be compared against EPA endorsed criteria. Statistical analyses of the data in accordance with relevant guidance documents will be undertaken, if appropriate, to facilitate the decisions. The following statistical criteria will be adopted with respect to soils: Either: the reported concentrations are all below the site criteria; Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; and the standard deviation of the results must be less than 50% of the site criteria. And: the 95% upper confidence limit (UCL[7]) of the average concentration for each analyte must be below the adopted site criterion. If the statistical criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
4. Are there any aesthetics issues in fill soils at the site?	If there are any unacceptable odours, anthropogenic materials or staining 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 off-site?	Are contaminants present within natural soils at concentrations exceeding EPA endorsed criteria, or do leachable concentrations within fill soils suggest migration is occurring? If yes, and the constituents are further found to be leachable by an assessment of physical properties the answer to the decision is Yes. Otherwise, the answer to the decision is No.
6. Is the site suitable for the proposed use?	Is the answer to any of the above decisions Yes? If yes, recommendations for management requirements and/or a remedial action plan (RAP) will be provided in order to make the site suitable. If no, the site will be declared suitable.

Statistical analyses of the data will be undertaken, if required, in accordance with relevant guidance documents. The following statistical criteria shall be adopted:

- The 95% upper confidence limit (UCL) on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy or material types) must be below the adopted criterion;

[7] Sampling Design Guidelines (NSW EPA, 1995).

- No single analyte concentration shall exceed 250% of the adopted criterion; and
- The standard deviation of the results must be less than 50% of the criterion.

6.1.6 Specify Limits of Decision Error

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, NEPC (2013), appropriate data quality indicators (DQIs) used to assess QA/QC, and standard JBS&G's 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 completeness, comparability, representativeness, precision and accuracy. 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 precision, accuracy, representativeness, comparability, completeness and sensitivity (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; 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** - is the ability for laboratory methods to reliably measure and detect concentrations in the analytical process.

If any of the DQIs are not met, further assessment will be necessary to determine whether the non-conformance will significantly affect the usefulness of the data. Corrective actions may include requesting further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data.

Table 6.2 Summary of Quality Assurance / Quality Control Program

Data Quality Objective	Frequency	Data Quality Indicator
Precision		
Blind duplicates (intra laboratory)	1 / 20 samples	<50% RPD1
Blind duplicates (inter laboratory)	1 / 20 samples	<50% RPD1
Accuracy		
Surrogate spikes	All organic samples	70-130%
Laboratory control samples	1 per lab batch	70-130%
Matrix spikes	1 per lab batch	70-130%
Representativeness		
Sampling appropriate for media and analytes		-
Samples extracted and analysed within holding times.	-	organics (14 days), inorganics (6 months)
Trip spike (for volatiles)	1 per sampling event when sampling for volatile or semi-volatile COPC	70-130% recovery
Trip blank	1 per sampling event for ambient air sampling	<LOR
Rinsate	1 per sampling event where reusable sampling equipment used	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All samples
Standard analytical methods used for all analyses	All Samples	All samples
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples
Limits of reporting appropriate and consistent	All Samples	All samples
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples
Appropriate documentation	All Samples	All samples
Satisfactory frequency and result for QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Satisfactory laboratory detection limits to identify potential contaminants of concern within the criteria values adopted	All samples	All samples

1. Relative per cent difference

6.1.7 Optimise the Design for Obtaining Data

Various strategies for developing a statistically based sampling plan are identified in EPA (1995[8]), including judgemental, random, systematic and stratified sampling patterns. Random sampling is not appropriate based on the areas of environmental concern identified in previous investigation and the site inspection.

A soil sampling program targeting areas not characterised in the PSI was completed. This including characterising additional areas as follows:

- Additional characterisation of embankment areas at seven locations using hand tools;
- Delineation of the depth of fill at 5 additional locations within the sports field using a drill rig; and
- Completion of comprehensive inspection of fill soils using a backhoe at an additional 8 locations within the sports field.

[8] *Sampling Design Guidelines.* NSW EPA. September 1995. (EPA 1995)

The total locations completed inclusive of this assessments and the previous assessment (JBS&G 2020a) have met the minimum number of samples suggested consistent with the guidance in EPA (1995) sampling design guidelines.

6.2 Sampling Plan

6.2.1 Soil Investigation

A total of twenty targeted and systematic soil sampling locations were conducted throughout accessible portions of the site, (BH11 to BH16, HA06 to HA12 and TP1 to TP8). Of these locations, six (BH11 to BH16) were conducted using a drill rig to recover soils via boreholes, seven (HA06 to HA12) were conducted using hand tools and eight (TP1 to TP8) were conducted using a backhoe. The soil sampling locations are provided on **Figure 3**.

Soil samples (1 x 250 mL jar and 500 mL asbestos bags where required) were collected from each location at regular intervals throughout the soil profile consisting of a location from the surface (0-0.1 m) and approximate 0.5 m depth intervals throughout the profile and into underlying natural soils or prior refusal.

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indicators of contamination were noted if observed. Inspection of the material for visible ACM was also conducted. Identification of fill materials and underlying natural soils where encountered, including associated depths, was also recorded. Soil descriptions and observations are presented on logs provided in **Appendix A**.

Soil samples were screened on site during works using a PID to assess the potential presence of VOCs. Samples obtained for PID screening were placed in a sealed plastic bag for a period of approximately 5 minutes to equilibrate, prior to the PID being attached to the bag. Readings were then monitored for a period of approximately 1 minute or until values stabilised and the stabilised/highest reading was recorded on the test pit logs. Calibration records for the PID are provided in **Appendix B**. PID readings included on the borehole logs provided in **Appendix B**.

Collected samples were immediately transferred to laboratory supplied sample jars. The sample jars were then transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory. Samples were analysed as per **Table 6.3** below.

6.3 Duplicate and Triplicate Sample Preparation

Duplicate and triplicate samples were obtained during the field works. 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 and sample bags as appropriate. Each sample was then labelled with a primary, duplicate or triplicate sample identification before being placed in the same chilled esky for laboratory transport.

6.4 Laboratory Analysis

JBS&G contracted Eurofins MGT as the primary laboratory and Envirolab Services as the secondary laboratory, both laboratories are NATA accredited for the required analyses. In addition, the laboratories were required to meet JBS&G's internal Quality Assurance requirements. The analytical schedule completed is provided in **Table 6.3** below.

Table 6.3 – Sampling and Analytical Program

Item	No. of sampling Locations	Analyses (excl QA/QC)
Boreholes	5 sampling locations	Heavy metals – 22 Samples TRH/BTEX – 18 Samples PAH – 15 samples PCBs – 2 Samples OCPs – 2 Samples Asbestos – 13 samples (500 mL per NEPC 2013) TCLP PAHs – 1 sample TCLP lead - 1 samples
Handaugers	7 sampling locations	Heavy metals – 17 Samples TRH/BTEX – 15 Samples PAH – 12 samples PCBs – 3 Samples OCPs –3 Samples Asbestos – 12 samples (500 mL per NEPC 2013) Asbestos ID – 2 samples Silica gel TRH – 1 sample TCLP lead - 2 samples TCLP PAHs – 3 sample
Testpits	8 sampling locations	Heavy metals – 11 Samples TRH/BTEX – 8 Samples PAH – 9 samples PCBs – 1 Samples OCPs –1 Samples Asbestos – 8 samples (500 mL per NEPC 2013) Silica gel TRH – 1 sample TCLP PAHs – 1 sample EC, pH and Clay % - 2 samples

7. Assessment Criteria

7.1 Regulatory Technical Guidelines

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

- *Contaminated Sites: Sampling Design Guidelines*, NSW EPA, 1995 (EPA 1995);
- *Waste Classification Guidelines*, NSW EPA, November 2014 (EPA 2014).
- *Guidelines for the Assessment Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, May 2009. Western Australia Department of Health 2009 (WA DOH 2009);
- *Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land*, NSW EPA and Department of Urban Affairs and Planning (DUAP 1998)
- *Contaminated Land Management: Guidelines for Consultants Reporting on Contaminated Sites*, NSW EPA, 2020 (EPA 2020);
- *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*, National Environment Protection Council, 2013 (NEPC 2013); and
- *Contaminated Land Management – Guidelines for the NSW Site Auditor Scheme (3rd Edition*) October 2017 NSW EPA 2017.

7.2 Soil Criteria

While the site subject to investigation herein currently includes grass playing fields, the proposed development will include synthetic playing fields over indoor courts, general and common learning areas and staff area consistent with a school. The sporting facilities will be utilised by both primary and secondary school children. NEPC (2013) indicates that investigation levels for the more sensitive land use on a site should be adopted. Under NEPC (2013) guidance, primary school is a more sensitive land use than secondary school and playing fields.

Based on the proposed ongoing use of the site as a Primary and Secondary School, concentrations of contaminants were compared against NEPC (2013) health based investigation (HILs), health screening levels (HSLs), ecological investigation levels (EILs, generic) and ecological screening levels (ESLs) for the most sensitive land use scenario of residential with gardens/accessible soils, which includes child care centres, preschools and primary schools.

This land use scenario has been chosen under the notion that the school grounds include primary school students who will use the sporting fields. Detail on the adopted criteria is provided below:

- HIL/ HSL A – residential with garden/accessible soil which includes childcare centres, preschools and primary schools; and
- EILs/ESLs – urban residential/public open space.

Site derived ecological criteria was calculated using ecological parameters for electrical conductivity, pH and clay % from samples TP4_1.0-1.5 and TP7_0.6-0.7. Ecological parameters reported were very low in terms of pH, EC and Clay %, as such the most conservative of the NEPC (2013) EILs have been adopted. Site derived EILs are provided in **Table A**.

The results of asbestos observations and analysis was assessed in general accordance with NEPC (2013) and WA DOH (2009) guidance.

Adopted soil criteria for the site are included on **Table A** and **Table B**.

7.3 Off-site Waste Disposal Criteria

Based on the understanding that materials may be excavated and disposed of offsite to facilitate the proposed development works, concentrations of reported chemicals and other attributes were compared against criteria in NSW EPA (2014) Waste Classification Guidelines (EPA 2014) to provide an indication of the waste type for fill materials for offsite disposal.

Natural Materials underlying fill were assessed for VENM as defined in EPA (2014) guidelines.

The criteria adopted for the assessment are shown in the summary results tables presented as **Table C**, Waste Classification (EPA 2014) leachable concentrations are provided on **Table D**.

8. Quality Assurance Quality Control

A single set of field duplicate and triplicate samples were collected and analysed for heavy metals, TRH/BTEX, PAHs, PCBs, OCPs and asbestos during the investigation. The reported concentrations were found to be in agreement with the primary sample result. Furthermore, appropriate indicators of data quality and standard JBS&G procedures for field sampling and handling were undertaken. Full QA/QC results are provided in **Appendix C**.

9. Results

9.1 Field Observations

JBS&G conducted a detailed inspection and soil sampling on 7th, 20th and 21st of April 2020 in addition to site inspection works conducted as part of the PSI (JBS&G 2020a). During sampling works, fill materials were identified from the surface to depths varying between 0.5 m and 5.2 m bgs. Depths of fill were generally observed to be deepest in the south and south-eastern end of the sports field where a maximum fill depth of 5.2 m bgs was reported at BH07. Fill was not as deep within the embankments, fill in these areas was reported between 0.6 and 1.0 m bgs. Logs for intrusive investigation locations conducted are provided in **Appendix A**.

Fill materials were observed as slightly different between the sports field and the embankment. Fill within the sports field area comprised of brown, brown-yellow and grey sands and silty sands with occasional inclusions of grass and rootlets. Fill was observed from the surface to depths of between 0.5 m at TP8 to at least 5.2 m below the surface at BH07. Fill towards the surface of the sports field mostly comprised consistent sand with few inclusions. In deeper fill areas to the south-east darker coloured material with inclusions of coarse gravels, glass and plastic was observed. No staining or odours were observed in fill materials.

Fill within the embankments of the northern and eastern boundaries was observed to comprise sandy soils blended with organic materials such as foliage and potting mixes. Fill within these areas was also observed to include inclusions of geofabric and rootlets. No staining or odours were observed in fill materials.

Natural materials were observed to comprise brown/yellow sand and sandstone beneath fill materials within the embankment and beneath fill within the sports field.

Two isolated fragments of ACM were identified at locations HA11 and HA12 within a narrow garden strip north of the tennis courts and on the north-western boundary of the site as shown on **Figure 4**. The fragments potentially were discarded into the garden over the site fence, the fragments were collected and submitted for laboratory confirmation analysis. No further fragments including no ACM observed in fill material was identified at the site.

9.2 Analytical Results

Summary soil analytical results for soil analysis, is provided in **Table A** and **Table B**. Laboratory reports and chain of custody documentation is provided in **Appendix D**. Locations where reported concentrations exceed health-based assessment criteria are shown on **Figure 4**.

9.2.1 Heavy metals

Heavy metals concentrations were all reported at concentrations below the adopted health health-based criteria adopted with the following exception:

- Lead at location BH12 3.0-3.5 with a reported concentration of 600 mg/kg which exceeds the human health criteria adopted.

The majority of heavy metal concentrations were also reported below the ecological based criteria adopted with the following exceptions:

- Zinc at locations HA01 to HA03, HA06 to HA12 including QA20200407-1 and BH04_0-0.1, BH12 3.0-3.5 and TP2_1.5-2.0 with reported concentrations between 67 and 1000 mg/kg; and
- Copper at locations HA07 0.2-0.3 and QA20200407-1 with reported concentrations of 65 and 60 mg/kg respectively.

9.2.2 PAHs

PAHs concentrations were reported below the adopted human health based criteria with the following exceptions:

- B(a)P TEQ and Total PAHs at location HA01_0-0.1 with reported concentrations of 32.97 mg/kg and 402 mg/kg respectively;
- B(a)P TEQ at location HA01_0.9-1.0 with a reported concentration of 13.45 mg/kg;
- B(a)P TEQ at location HA02_0-0.1 with a reported concentration of 5.81 mg/kg;
- B(a)P TEQ at location BH07_1.5-1.6 with a reported concentration of 24.67 mg/kg;
- B(a)P TEQ at location BH12_2.5-3.0 and BH12_3.0-3.5 with reported concentrations of 18.51 and 4.522 mg/kg respectively;
- B(a)P TEQ at location HA06 0-0.1 including QA20200407-1 and QC 20200407-1 with reported concentrations of 19.28 mg/kg, <12.1 and 4.398 respectively;
- B(a)P TEQ at location HA07 0.2-0.3 with a reported concentration of 3.298 mg/kg;
- B(a)P TEQ at location HA08 0.2-0.3 with a reported concentration of 8.848 mg/kg; and
- B(a)P TEQ at location TP2 1.5-2.0 with a reported concentration of 16.6 mg/kg;

Concentrations of PAHs were reported at concentrations below the adopted ecological based criteria adopted with the following exceptions:

- B(a)P at location HA01, including HA01_0-0.1, QC-01, QA-01, and HA01_0.9-1.0 with reported concentrations of 23.0 mg/kg 4.8 mg/kg, 4.8 mg/kg and 9.0 mg/kg respectively;
- B(a)P at location HA02_0-0.1 with a reported concentration of 3.9 mg/kg;
- B(a)P at location HA03_0-0.1 with a reported concentration of 0.8 mg/kg;
- B(a)P at locations BH07_1.5-1.6 and BH07_4.0-4.1 with reported concentrations of 18.0 and 0.8 mg/kg respectively;
- B(a)P at location BH12_2.5-3.0 and BH12_3.0-3.5 with reported concentrations of 12.0 and 3.0 mg/kg respectively;
- B(a)P at location HA06 0-0.1 including QA20200407-1 and QC20200407-1 with reported concentrations of 13.0, <5 and 3.2 mg/kg respectively;
- B(a)P at location HA07 0.2-0.3 with a reported concentration of 2.3 mg/kg;
- B(a)P at location HA08 0.2-0.3 with a reported concentration of 5.6 mg/kg;
- B(a)P at location HA09 0-0.1 with a reported concentration of 0.7 mg/kg;
- B(a)P at location HA11 0.4-0.5 with a reported concentration of 0.7 mg/kg;
- B(a)P at location HA12 0-0.1 with a reported concentration of 0.7 mg/kg; and
- B(a)P at location TP2 1.5-2.0 with a reported concentration of 11.0 mg/kg;

The reported concentrations were noted mostly within the garden embankment and may be associated with landscaped garden mixes.

Elevated B(a)P concentrations reported in the southern portion of the sports field are generally at depth (e.g. BH07 1.5-1.6m, BH12 2.5-3.5m, TP2 1.5-2m).

9.2.3 TRH/BTEX

Concentrations of TRH and BTEX were reported at concentrations below the adopted health based and ecological based criteria adopted with the following exceptions where TRH C_{16}-C_{34} exceeded the adopted ecological criterion of 300 mg/kg:

- TRH C_{16}-C_{34} in sample HA01_0-0.1 including QC01 and QA01 with reported concentrations of 1700 mg/kg, 510 mg/kg and 420 mg/kg respectively;
- TRH C_{16}-C_{34} (460 mg/kg) in sample HA02_0.4-0.5;
- TRH C_{16}-C_{34} (500 mg/kg) in sample HA03_0-0.1;
- TRH C_{16}-C_{34} (1000 mg/kg) in sample HA06 0-0.1;
- TRH C_{16}-C_{34} (460 mg/kg) in sample HA07 0.2-0.3;
- TRH C_{16}-C_{34} (580 mg/kg) in sample HA08 0.2-0.3;
- TRH C_{16}-C_{34} (360 mg/kg) in sample HA09 0-0.1; and
- TRH C_{16}-C_{34} (460 mg/kg) in sample TP2_1.5-2.0;

It is noted that detectable concentrations of TRH fractions C_{34}-C_{40} and C_{16}-C_{34} were reported at concentrations below the health and ecological criteria adopted. Detectable concentrations of BTEX as Ethylbenzene and Total Xylenes were also identified within a number of samples analysed, albeit at concentrations below the health and ecological criteria adopted.

The identified TRH and BTEX concentrations are considered likely to be associated with organic material in garden mixes, fertilizers etc, which have been used. It is noted, TRH and BTEX was not detected within the sports field area with the exception of location TP2_1.5-2.0.

9.2.3.1 TRH Silica Gel

Based on the reported TRH concentrations identified in **Section 9.2.3**, TRH analysis following Silica gel 'clean-up' was run on samples TP2_1.5-2.0, BH12_3.0-3.5 and HA06_0-0.1.

All TRH silica gel samples analysed reported concentrations below the laboratory limits of reporting with the exception of location TP2_1.5-2.0 which reported TRH C_{16}-C_{34} at a concentration of 250 mg/kg.

TRH concentrations including concentrations following silica gel 'clean up' suggests soils at BH12_3.0-3.5 were entirely organic. Soils at location TP2_1.5-2.0 may have been associated with some minor petroleum hydrocarbons in fill, but at low concentrations and at a depth unlikely to impact ecological receptors.

TRH concentrations at HA06_0-0.1 are also considered to be organic and associated with mulches and decomposing vegetations. It is further noted that the result of HA06 is considered to be representative of all eastern embankment areas which reported elevated TRH concentrations and were observed to include vegetation and mulches.

9.2.4 OCPs/PCBs

OCPs and PCBs concentrations were reported below the laboratory limit of reporting in all samples analysed.

9.2.5 Asbestos

Asbestos analytical results for soil samples and material samples analysed during the investigation is provided in **Table B**.

No asbestos in the form of Asbestos Fines (AF)/Fibrous Asbestos (FA) was detected in soil samples analysed.

As noted in **Section 9.1,** two isolated fragments of ACM were identified within surface soils at locations HA11 and HA12 in the north-western boundary of the site. Both fragments were collected and sent to the laboratory for confirmation analysis. Both samples, FRAG-01 and FRAG-02 were reported as containing chrysotile and amosite asbestos within a fibre cement sheet fragment.

9.3 Contaminant Leachability

The highest concentrations of PAHs, B(a)P and Lead were submitted for additional TCLP testing. The testing was primarily conducted to allow preliminary assessment of waste classification, but can also be used to assess the potential for the identified contamination concentrations to leach through the soil profile and potentially migrate into other media such as groundwater below. The soil leachate analytical results are provided in **Table D**.

TCLP was conducted on samples BH12 3.0-3.5, HA01 0-0.1 and HA02 0-0.1 for lead. The reported results demonstrated that the lead would leach at minor concentrations under conservative acidic TCLP leaching conditions. The reported concentrations were 0.13 mg/L, 0.07 mg/L and 0.03 mg/L respectively.

TCLP was conducted on samples BH07 4.0-4.1, HA01 0-0.1, HA06 0-0.1, HA08 0.2-0.3 and TP2 1.5-2.0 for PAHs. The reported leachable concentrations were all below the laboratory limit of reporting suggesting that leaching of PAHs was not likely to occur at the site, consistent with the PAHs being associated with ash in fill, in which PAHs are bound into the ash through the combustion process.

9.4 Preliminary Waste Classification

A summary of waste classification of soils characterised at the site including comparison with *Waste Classification Guidelines* (EPA 2014), adoption of TCLP leachate testing is provided below. Comparison of soil analytical results with NSW EPA (2014) Waste classification guideline is provided on **Table C** and **Table D**.

- Concentrations of lead were reported above the NSW EPA 2014 General Solid Waste contaminant threshold (CT1) (without TCLP) at a number of locations. As such TCLP analysis was conducted on samples HA01_0-0.1, HA02_0-0.1 and BH12_3.0-3.5. Following TCLP analyses, low leachable concentrations of Lead, 0.07 mg/L in HA01_0-0.1, 0.03 mg/L in HA02_0-0.1 and 0.13 mg/L in BH12_3.0-3.5, were reported below NSW EPA (2014) allowable TCLP leachable concentrations for General Solid Waste (TCLP1). All lead concentrations in soil were below the Specific Contaminant concentration for General Solid Waste (SCC) for comparison when TCLP is undertaken. TCLP analyte concentrations are provided on **Table D**. As such total and leachable lead concentrations are below General Solid Waste criteria SCC1 and TCLP1 respectively.
- Concentrations of PAHs including B(a)P and total PAHs were identified above NSW EPA 2014 General Solid Waste contaminant thresholds (CT1) (without TCLP tests) at a number of locations. TCLP analysis for PAHs was conducted on samples BH07_4.0-4.1, TP2_1.5-2.0, HA06 0-0.1, HA08_0.2-0.3 and HA01_0-0.1 to confirm if leachable concentrations are within the allowable limits for GSW. The TCLP leachable concentrations reported were all below the laboratory limits of reporting and within the allowable concentrations for GSW. As such, with the exception of HA01_0-0.1, BH07_1.5-1.6, BH12_2.5-3.0, HA06 0-0.1 and TP2_1.5-2.0 which contained B(a)P contaminant concentrations above the specific contaminant concentration for GSW (SCC1), soils fall within the allowable concentrations for General Solid waste for PAHs. TCLP analyte concentrations are provided on **Table D**.

  Statistical analysis on B(a)P concentrations within each of the fill types, the sports field and the embankment, was calculated including 95% upper confidence limit (UCL) as recommended in EPA (2014). Following statistical analysis it was confirmed that the

average concentrations and 95% UCL of B(a)P within each of the fill types is below the SCC1 value for GSW. Results of statistical analysis are provided in **Appendix E** and discussed below:

Sports field

- Mean 1.916, maximum concentration 18 mg/kg, standard deviation 4.492, 95% UCL 3.421.
- Mean and 95% UCL for these materials are within the SCC1 contaminant threshold for GSW.

Embankments

- Mean 4.222, maximum concentration 23 mg/kg, standard deviation 2.815, 95% UCL 6.607.
- Mean and 95% UCL for these materials are within the SCC1 contaminant threshold for GSW.

Based on comparison of soil analytical results with NSW EPA (2014) waste classification guidelines, soils either fall within the CT1 thresholds or fall within the TCLP1 and SCC1 thresholds following confirmation of TCLP testing and following calculation of mean and 95% UCL.

- Based on the sample results from natural materials, it is considered that natural sand soils and sandstone materials encountered beneath the fill are consist with the classification of VENM as defined in the NSW EPA (2014).

Based on the results of the assessment including TCLP analysis and 95% UCLs, it is considered that fill materials within the sports field and within the embankment are likely to fall within the General Solid Waste (non-putrescible) category.

Should asbestos be encountered material would also require classification as Special (Asbestos) Waste.

Waste classification should be confirmed prior to offsite disposal if required.

10. Site Characterisation

10.1 Have soils been characterised to an extent where suitable conclusions can be drawn regarding the suitability of the site in accordance with SEPP 55 Guidelines?

The additional works completed in this DSI has characterised the site with an appropriate sampling density to meet the requirements of the NSW EPA Sampling Design Guidelines (EPA 1994). Additionally, sampling has been completed within additional areas not characterised in the PSI, including delineation of the depth of fill materials and underlying natural materials.

Based on the works conducted the site has been suitably characterised to make decisions regarding site suitability in accordance with SEPP 55 Guidelines.

10.2 Has comprehensive inspection of fill materials been conducted?

The investigation completed included comprehensive surface inspection and comprehensive inspection of soils recovered through borehole, hand tools and testpit methods. Of particular note, characterisation of soils within the sports field using testpits allowed for thorough inspection of soils at each investigation location.

Based on the inspections conducted, soils have generally been observed to be free of significant anthropogenic impacts such as inclusions of large amounts of rubble, and free of aesthetic issues such as stained of odorous soils. It was noted that two fragments of ACM were identified at locations HA11 and HA12 on the north-western boundary of the site.

Based on the assessment completed and limitations associated with investigation of subsurface environments, comprehensive inspection of fill materials and delineation of fill depth has occurred at the majority of investigation locations completed.

10.3 Based on the works completed are there any unacceptable risks to likely future onsite receptors from impacted soils during development?

Based on the results reported in **Section 9,** elevated lead, and PAH concentrations associated with B(a)P TEQ and Total PAHs, have been identified to exceed the adopted health-based criteria. Elevated lead was also encountered within location BH12 3.0-3.5 only.

The elevated concentrations have been delineated to the following areas:

- The eastern garden embankment adjacent with the site's eastern boundary adjacent to the bend on New South Head Road; and
- The south-eastern portion of the sports field within locations BH07, BH12 and TP2 as shown on **Figure 4**. It is further noted that impact within the sports field has been identified at a depth of 1.5 m or more from the surface.

While contaminant concentrations within these areas have been reported to present a potential health risk, it is noted that these areas are associated with minimal if any direct contact with site users as the impacted areas are located at depth below the sports field and within steep garden embankments. Further to this and with respect to the proposed redevelopment works, the following is noted:

- Concentrations present a potentially unacceptable health risk to site users through dermal contact and/or ingestion if soils are reused within the school grounds or within the sports fields and other open space areas such as gardens, particularly if they are used at or near the surface;
- The concentrations do not represent a potential health risk to workers (i.e. excavation and working within the impacted soils). Reduced exposure times in this scenario and added

safety measures including personal protective equipment and safe working practices mean that risk to worker exposure to soils is mitigated during excavation and redevelopment works.

While not identified in soil samples analysed, non-friable ACM was identified within surface soils at locations HA11 and HA12 within a landscaped strip behind the tennis courts and on the sites boundary with Bayview Hill Road as shown on **Figure 4**.

Potential ecological risk (to plant growth) associated with elevated lead, zinc, copper, TRH and B(a)P was identified at locations HA01 to HA03 and HA06 to HA12 within the embankment areas. Potential ecological risk was also identified within the sports field at locations BH04, BH07, BH12 and TP02. However, noting there are no ecological receptors at or nearby the site such as creeks or habitats for native flora and fauna species, protection of ecological receptors was not considered relevant for the site. Further to this, vegetation observed at the site did not appear to be stressed.

Based on the assessment conducted, no significant or gross contamination has been identified which would prevent the site from being used for its current or proposed use. However, the elevated concentrations of B(a)P TEQ, Total PAHs and lead at the locations within the eastern embankment and south-eastern sports field as shown on **Figure 4** will require management during redevelopment works. ACM identified within the north-western strip behind the tennis courts was collected and removed for laboratory testing. No further ACM was identified during the investigation, although the potential for further ACM findings in fill at the site exists.

The proposed development will result in replacement of existing playing fields with a multi-storey structure topped with synthetic playing field, effectively eliminating areas of potential soil exposure except the stone-faced and landscaped embankment areas.

10.4 Are there any aesthetic concerns in fill soils present at the site?

Based on observations made during the site inspection and during the intrusive soil sampling conducted, no staining or odours were identified. Additionally, no significant amounts of anthropogenic materials such as building rubble was observed on the surface or within fill materials.

As noted, ACM was identified at locations HA11 and HA12 as shown on **Figure 4**. The fragments were collected and removed for laboratory testing. No further ACM was identified during the investigation.

Noting removal of ACM observed, there are no aesthetic concerns within fill soils encountered at the site. However, it is recommended that an unexpected finds protocol is adopted during development works in case any visible ACM or aesthetically impacted materials are identified during earthworks.

10.5 Is there any evidence of, or potential for, migration of contaminants off-site?

Based on the investigation works conducted, migration of contaminants off-site is considered unlikely. Contaminants of concern identified at the site including lead and PAHs were confirmed as being below Waste Classification Guidelines (EPA 2014) leachable concentrations following TCLP analysis.

Additionally, TRH and PAHs identified in garden embankment areas and are considered to be sourced from organic material in garden mixes, fertilizers etc, which have low migration potential.

10.6 Is the site suitable for the proposed use?

Based on the investigation conducted no gross or significant contaminant has been identified which would prevent the site being developed for the proposed Kambala School Sports Precinct.

Identified elevated lead, B(a)P TEQ, and Total PAH concentrations identified present a potential health risk and will require management during the proposed redevelopment. Additionally, an unexpected finds protocol should be put in place during development works if any unexpected ACM or other signs of contamination are identified during works.

In order to manage the potential health risks, a remedial action plan (RAP) including unexpected find protocol is required to be prepared to make the site suitable for the proposed use.

11. Conclusions

Based on the findings of this investigation and subject to the limitations in **Section 12**, the following findings are presented:

- A comprehensive DSI has been completed to satisfy EPA endorsed guidelines and SEPP 55 planning guidelines;
- Contamination issues associated with Total PAHs and B(a)P TEQ were identified within the eastern garden embankment at locations HA01 to HA03 and HA06 to HA08. Elevated concentrations of B(a)P TEQ and lead were identified at depth within the south-eastern portion of the sports field at locations BH07, BH12 and TP2 also;
- Given no areas of ecological significance are located at or nearby the site, and the proposed redevelopment protection of ecology is not considered relevant to the site. Reported TRH concentrations within embankment areas are considered related to natural organic material in mulch/vegetation and not petroleum impact and does not pose an unacceptable risk; and
- Two fragments on non-friable ACM at locations HA11 and HA12 were identified and removed for testing. No other asbestos as AF/FA or visible ACM was identified at the site, however there is potential for ACM to be present in fill and other areas of the site.
- Despite the contamination issues identified, it is noted that there is no unacceptable risk to users of the playing field areas as the contamination in this area was at depth where there is no existing pathway whereby site users come into contact with these soils under normal surface usage. Impacted soils within the embankments are not considered to be regularly occupied by site users other than gardeners and/or maintenance works, and COPC concentrations in this area do not pose a risk under a commercial worker scenario.

Based on the conclusions present, it is considered that the site can be made suitable for the proposed redevelopment in accordance with SEPP 55 subject to preparation and implementation of a Remedial Action Plan (RAP) including an unexpected finds protocol.

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.

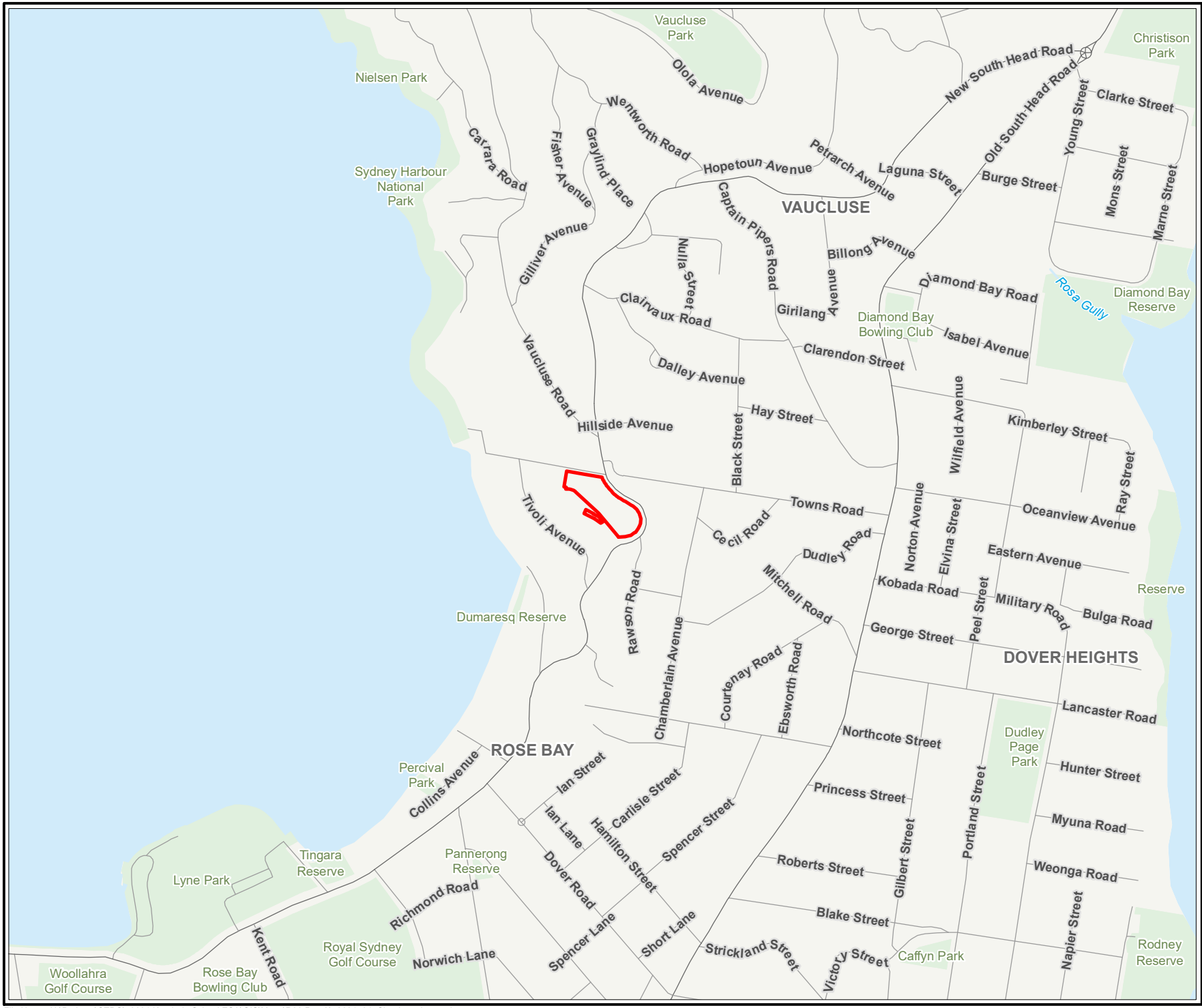
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

- Site Boundary
- Parks and reserves
- Waterbody area
- Waterway
- Primary Road
- Local Road

JBS&G

Job No: 58081	
Client: CTPG	
Version: R03 Rev A	Date 12/05/2020
Drawn By: AS	Checked By: GB

Scale 1:10,000

0 120 240

metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

SITE LOCATION

FIGURE 1

File Name: N:\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R03 Rev A\58081_01_Site_Location.mxd
Reference: NSW DCS, 2020

Legend:
- Approximate Site Boundary
- Approximate Diesel UST Location

JBS&G

Job No: 58081	
Client: CTPG	
Version: R03 Rev A	Date 12/05/2020
Drawn By: AS	Checked By: GB
Scale 1:1,000	

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

SITE LAYOUT

FIGURE 2

File Name: N:\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R03 Rev A\58081_02_SiteLayout.mxd
Reference: Nearmap Imagery - 21-01-2020

Legend:

Approximate Site Boundary

Sample Locations (JBS&G 2019)

- Borehole
- Hand Auger

Sample Locations (JBS&G 2020)

- Borehole
- Hand Auger
- Test Pit

JBS&G

Job No: 58081	
Client: CTPG	
Version: R03 Rev A	Date 20/05/2020
Drawn By: AS	Checked By: GB

Scale 1:1,000

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

SAMPLE LOCATIONS

FIGURE 3

File Name: N:\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R03 Rev A\58081_03_SampleLocations.mxd
Reference: Nearmap Imagery - 21-01-2020

HA12	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
ACM	0.0-0.1	ACM visable in Surface Soil	

HA11	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
ACM	0.0-0.1	ACM visable in Surface Soil	

BH12	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	2.5-3.0	18.51	HIL A
B(a)P TEQ	3.0-3.5	4.522	
Lead		600	

BH07	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	15-16	24.67	HIL A

TP2	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	15-20	16.6	HIL A

HA08	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	0.2-0.3	8.848	HIL A

HA06	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	0.0-0.1	19.28	HIL A

HA01	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	0.0-0.1	13.45	HIL A
Total PAHs		402	

HA02	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	0.0-0.1	5.806	HIL A
B(a)P TEQ	0.4-0.5	6.155	

HA07	Depth (m)	Concentration (mg/kg)	Criteria
Analyte			
B(a)P TEQ	0.2-0.3	3.298	HIL A

Legend:

- Approximate Site Boundary

Sample Locations (JBS&G 2019)

- Borehole
- Hand Auger

Sample Locations (JBS&G 2020)

- Borehole
- Hand Auger
- Test Pit

JBS&G

Job No: 58081

Client: CTPG

Version: R03 Rev A | Date 25/06/2020

Drawn By: AS | Checked By: GB

Scale 1:1,000

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

HEALTH BASED EXCEEDANCES

FIGURE 4

File Name: \\JBSG-NSW-FS01\Company Data\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R03 Rev A\58081_04_Exceedances.mxd
Reference: Nearmap Imagery - 21-01-2020

Tables

Table A Soil Analytical Results
Project Number: 58081
Project Name: Kambala Sports Precinct

				Heavy Metal								OCP																															
				Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	Hexachlorobenzene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	beta-BHC	alpha-Chlordane	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	gamma-Chlordane	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
				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	5	5	5	0.1	5	5	0.05	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	0.1	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil				100	20	100	6000	300	40	400	7400	10			6				50				240					10				6			300	20		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																									
0-1m																																									
1-2m																																									
2-4m																																									
>4m																																									
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*				100		190	60	1100		30	70										180																			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m																																									
Field_ID	**Sampled_Date-Time**	**Matrix_Description**	**Lab_Report_Number**																																								
Preliminary Site Investigation																																										
BH03_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	5.2	10	9	<0.1	<5	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.4	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	6.5	5.3	<0.1	<5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_1.0-1.1	08-Jan-19	Borehole within Sportsfield	635079	60	<0.4	17	37	74	0.2	29	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	8.5	30	<0.1	<5	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_3.0-3.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.2	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.2	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_1.5-1.6	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	18	47	<0.1	<5	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1.5-1.6	08-Jan-19	Borehole within Sportsfield	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	<5	<0.1	<5	<5	<0.05	<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	<0.05	<1	<0.1	<0.1
BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	8.8	<0.1	<5	8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08_3.5-3.6	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	7	5.2	18	<0.1	<5	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	17	9.7	<0.1	<5	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	6.2	<5	<5	<0.1	<5	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_4.0-4.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	14	<5	9.7	<0.1	<5	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	2.3	<0.4	<5	<5	8.5	<0.1	<5	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_1.0-1.1	09-Jan-19	Borehole within Sportsfield	635079	10	<0.4	15	<5	18	<0.1	<5	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	2.3	<0.4	8.3	43	220	<0.1	<5	390	<0.05	<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	<0.05	<1	<0.1	<0.1
QC-01	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	2.2	<0.4	10	41	230	<0.1	<5	430	<0.05	<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	<0.05	<1	<0.1	<0.1
QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	<4	<0.4	8	59	290	0.1	4	550	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	2.2	<0.4	6.4	39	170	0.1	<5	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0-0.1	08-Jan-19	Handauger within Embankment	635079	3.1	<0.4	8.4	50	180	<0.1	<5	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	2.3	<0.4	5.6	44	130	<0.1	<5	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0-0.1	08-Jan-19	Handauger within Embankment	635079	2.1	<0.4	6.7	32	120	0.1	<5	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	5.9	14	39	<0.1	<5	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	3.1	<0.4	7.8	6	17	<0.1	<5	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04_1.4-1.5	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	<5	<5	9.1	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_0-0.1	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	6.9	8.6	10	<0.1	<5	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	2.1	<0.4	<5	<5	9.8	<0.1	<5	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A Soil Analytical Results
Project Number: 58081
Project Name: Kambala Sports Precinct

				Heavy Metal								OCP																													
				Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	Hexachlorobenzene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	beta-BHC	alpha-Chlordane	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	gamma-Chlordane	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
				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	5	5	5	0.1	5	5	0.05	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	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil				100	20	100	6000	300	40	400	7400	10			6				50				240					10				6			300	20		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																							
0-1m																																							
1-2m																																							
2-4m																																							
>4m																																							
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*				100		190	60	1100		30	70										180																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m																																							
Field_ID	**Sampled_Date-Time**	**Matrix_Description**	**Lab_Report_Number**																																					
Detailed Site Investigation																																							
BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	4.9	<0.4	8.8	<5	<5	<0.1	<5	<5	<0.05	<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	<0.2	<1	<0.2	<0.2
BH12_2.5-3.0	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	<5	14	600	<0.1	<5	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	<5	<5	8.1	<0.1	<5	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	2.7	<0.4	6.3	<5	14	<0.1	<5	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	6.5	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	7.9	<0.4	10	11	21	<0.1	<5	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	5.2	<0.4	9.5	43	170	0.1	<5	240	<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	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
HA06 0-0.1	07-Apr-20	Handauger within Embankment	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20200407-1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	3.2	<0.4	7.6	60	220	0.1	<5	400	<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	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	<4	<0.4	8	46	120	<0.1	5	320	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	-	-	-
HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	3.6	<0.4	7.3	65	140	0.1	<5	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	2.8	<0.4	7.4	30	95	<0.1	<5	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	2.7	0.5	9.1	48	80	0.2	<5	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	2.7	<0.4	5.4	5.8	17	<0.1	<5	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	<2	0.4	6.4	<5	50	<0.1	6.5	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	<2	<0.4	<5	5.2	35	<0.1	<5	67	<0.05	<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	<0.2	<1	<0.2	<0.2
TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	5.5	<0.4	7.2	24	49	<0.1	<5	49	<0.05	<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	<0.2	<1	<0.2	<0.2
TP1_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	2	<0.4	<5	5.1	6	<0.1	<5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	3.5	<0.4	13	40	59	0.1	<5	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	5.9	<0.4	6.1	5.2	13	<0.1	<5	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	8.2	<0.4	6.4	<5	17	<0.1	<5	12	<0.05	<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	<0.2	<1	<0.2	<0.2
QC20200421	21-Apr-20	Triplicate sample of TP4_0-0.1	241327	5	<0.4	5	4	16	<0.1	2	12	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	<0.1	<0.1
QA20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	714933	8.7	<0.4	6.3	<5	13	<0.1	<5	15	<0.05	<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	<0.2	<1	<0.2	<0.2
TP4_1.0-1.5	21-Apr-20	Testpit within Sportsfield	716335	<2	<0.4	<5	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	5.6	<0.4	13	<5	14	<0.1	<5	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	<2	<0.4	<5	<5	8.5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	6	<0.4	12	10	25	<0.1	5.6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7_0.6-0.7	21-Apr-20	Testpit within Sportsfield	714933	<2	<0.4	5.6	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	2.6	<0.4	<5	7	13	<0.1	<5	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																							
Number of Results				56	56	56	56	56	56	56	56	13	13	13	12	13	13	-	10	13	13	13	13	13	13	13	13	13	-	13	10	13	12	12	12	11	11	11
Number of Detects				30	2	37	34	50	9	6	46	0	0	0	2	0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0
Minimum Concentration				<2	<0.4	<5	4	<5	<0.1	2	<5	<0.05	<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	<0.1	<0.1	<0.1
Minimum Detect				2	0.4	5	4	5.3	0.1	2	5.4	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				60	0.5	17	65	600	0.2	29	1000	<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	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
Maximum Detect				60	0.5	17	65	600	0.2	29	1000	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				3.7	0.21	6.3	16	63	0.062	3.2	121	0.065	0.065	0.065	0.07	0.065	0.065	-	0.14	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	0.065	-	0.065	0.07	0.065	0.067	0.067	0.098	0.46	0.15	0.15
Median Concentration				2.1	0.2	6.3	5.9	17	0.05	2.5	19	0.025	0.025	0.025	0.025	0.025	0.025	-	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	-	0.025	0.025	0.025	0.025	0.025	0.1	0.5	0.1	0.1
Standard Deviation				8	0.048	3.6	19	102	0.032	3.6	208	0.083	0.083	0.083	0.095	0.083	0.083	-	0.19	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	-	0.083	0.095	0.083	0.086	0.086	0.078	0.14	0.17	0.17
Number of Guideline Exceedances				0	0	0	2	1	0	0	18	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	2	1	0	0	18	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0

* Based on site derived ecological data including clay % CEC and pH

Table A Soil Analytical Results
Project Number: 58081
Project Name: Kambala Sports Precinct

				PCB								TRH										BTEX						PAH																					Inorganic			
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	C6-C9 Fraction	>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)	>C10-C16 Fraction (Silica Gel)	>C16-C34 Fraction (Silica Gel)	>C34-C40 Fraction (Silica Gel)	Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TEQ	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Total)	EC 1:5 soil:water	Cation Exchange Capacity	pH 1:5 soil:water	% Clay
				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	µS/cm	meq/100g	ph Units	%
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20	50	100	100	100	50	20	20	50	100	100	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	10	0.05	0.1	1
NEPM 2013 Table 1A(1) HILs Res A Soil											1																					3												300				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																																	
0-1m																	110		45				0.5	55	160			40															3							
1-2m																	240		70				0.5	NL	220			60															NL							
2-4m																	440		110				0.5	NL	310			95															NL							
>4m																	NL		200				0.5	NL	540			170															NL							
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*																																											170							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m														300	2800		120		180		300	2800	50	70	85			105				0.7																	
Field_ID	**Sampled_Date-Time**	**Matrix_Description**	**Lab_Report_Number**																																															
Preliminary Site Investigation																																																	
BH03_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH04_1.0-1.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH06_3.0-3.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH07_1.5-1.6	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1.5-1.6	08-Jan-19	Borehole within Sportsfield	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	1.5	12	18		24.67	13	10	15	17	1.2	31	<0.5	12	<0.5	10	33	173.7	-	-	-	-
BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<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	0.8		1.204	<0.5	<0.5	<0.5	0.6	<0.5	1	<0.5	0.7	<0.5	0.5	1.1	4.7	-	-	-	-
BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH08_3.5-3.6	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH09_4.0-4.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH10_1.0-1.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<50	1700	450	2150	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	0.8	1.4	2.1	4.5	<0.5	15	26	23		32.97	15	7.8	24	29	1.6	100	3.1	15	<0.5	48	90	402	-	-	-	-
QC-01	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<50	510	310	820	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	0.3	0.2	0.6	<0.5	<0.5	<0.5	3.1	4.8		6.492	3.1	2.6	4.1	3.6	<0.5	7.2	<0.5	3.5	<0.5	1.6	8.2	41.8	-	-	-	-
QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	420	220	640	<50	<25	<25	-	-	-	<0.2	<1	<0.5	<1	<2	<1	0.1	0.5	0.7	3.5	4.8		6.155	7.5	3		3.5	0.7	4.7	<0.1	2.4	0.1	1.9	4.9	38	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	2	8.9	9		13.45	6.3	3.6	7.8	8.2	1.5	17	<0.5	5.3	<0.5	8.2	17	94.8	-	-	-	-
HA02_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	290	180	470	<50	<20	<20	-	-	-	<0.1	0.5	<0.1	1.2	3.3	4.5	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	460	190	650	<50	<20	<20	-	-	-	<0.1	0.2	<0.1	0.8	2	2.8	<0.5	0.6	0.7	3.4	3.9		5.806	2.8	2.3	3.5	3.3	0.7	6.3	<0.5	1.8	<0.5	2	6.2	37.5	-	-	-	-
HA03_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	500	130	630	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<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	0.7	0.8		1.261	<0.5	<0.5	0.8	0.8	<0.5	1.7	<0.5	<0.5	<0.5	0.5	1.6	6.9	-	-	-	-
HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
HA04_1.4-1.5	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<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		<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-

Table A Soil Analytical Results
Project Number: 58081
Project Name: Kambala Sports Precinct

Field_ID	Sampled_Date-Time	Matrix_Description	Lab_Report_Number	PCB: Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Res A Soil											1
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand											
0-1m											
1-2m											
2-4m											
>4m											
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*											
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m											
Detailed Site Investigation											
BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12_2.5-3.0	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-
BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-
BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-
BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-
BH16_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	716335	-	-	-	-	-	-	-	-
QA20200407-1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	-	-	-	-	-	-	-	-
QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	-	-	-	-	-	-	-	-
HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-
TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP1_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-
TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20200421	21-Apr-20	Triplicate sample of TP4_0-0.1	241327	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QA20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP4_1.0-1.5	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-
TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP7_0.6-0.7	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP8_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-
Statistical Summary											
Number of Results				8	8	8	8	8	8	8	8
Number of Detects				0	0	0	0	0	0	0	0
Minimum Concentration				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Minimum Detect				ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Detect				ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				ND	ND	ND	ND	ND	ND	ND	ND
Median Concentration				ND	ND	ND	ND	ND	ND	ND	ND
Standard Deviation				ND	ND	ND	ND	ND	ND	ND	ND
Number of Guideline Exceedances				0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	0

Field_ID	Lab_Report_Number	TRH: C6-C9 Fraction	>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)	>C10-C16 Fraction (Silica Gel)	>C16-C34 Fraction (Silica Gel)	>C34-C40 Fraction (Silica Gel)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		20	50	100	100	100	50	20	20	50	100	100
NEPM 2013 Table 1A(1) HILs Res A Soil												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand												
0-1m							110		45			
1-2m							240		70			
2-4m							440		110			
>4m							NL		200			
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m				300	2800		120		180		300	2800
Detailed Site Investigation												
BH11_0.5-1.0	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
BH12_2.5-3.0	716335	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	714933	<20	<50	160	<100	160	<50	<20	<20	-	-	-
BH12_3.0-3.5	716335	-	-	-	-	-	-	-	-	<50	<100	<100
BH13_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
BH14_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
BH15_0.5-1.0	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
BH16_0.0-0.1	714933	-	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	713049	<20	<50	1000	290	1290	<50	<20	<20	-	-	-
HA06 0-0.1	716335	-	-	-	-	-	-	-	-	<50	<100	<100
QA20200407-1	713049	<20	<50	570	190	760	<50	<20	<20	-	-	-
QC 20200407-1	240785	<25	<50	460	370	830	<50	<25	<25	-	-	-
HA07 0.2-0.3	713049	<20	<50	460	190	650	<50	<20	<20	-	-	-
HA08 0.2-0.3	713049	<20	<50	580	190	770	<50	<20	<20	-	-	-
HA09 0-0.1	713049	<20	<50	360	170	530	<50	<20	<20	-	-	-
HA10 0-0.1	713049	<20	<50	110	<100	110	<50	<20	<20	-	-	-
HA11 0.4-0.5	713049	<20	<50	110	<100	110	<50	<20	<20	-	-	-
HA12 0-0.1	713049	<20	<50	130	<100	130	<50	<20	<20	-	-	-
TP1_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP1_1.0-1.5	714933	-	-	-	-	-	-	-	-	-	-	-
TP2_0.0-0.1	714933	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	714933	<20	<50	580	140	720	<50	<20	<20	-	-	-
TP2_1.5-2.0	716335	-	-	-	-	-	-	-	-	<50	250	<100
TP3_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP4_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
QC20200421	241327	<25	<50	<100	<100	<50	<50	<25	<25	-	-	-
QA20200421	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP4_1.0-1.5	716335	-	-	-	-	-	-	-	-	-	-	-
TP5_0.5-1.0	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP6_1.0-1.5	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP7_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP7_0.6-0.7	714933	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.1	714933	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-
TP8_0.5-0.6	714933	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary												
Number of Results		47	47	47	47	47	47	47	47	3	3	3
Number of Detects		0	0	17	13	17	0	0	0	0	1	0
Minimum Concentration		<20	<50	<100	<100	<50	<50	<20	<20	<50	<100	<100
Minimum Detect		ND	ND	110	130	110	ND	ND	ND	ND	250	ND
Maximum Concentration		<25	<50	1700	450	2150	<50	<20	<20	<50	250	<100
Maximum Detect		ND	ND	1700	450	2150	ND	ND	ND	ND	250	ND
Average Concentration		10	25	211	100	274	25	ND	ND	25	117	50
Median Concentration		10	25	50	50	50	25	ND	ND	25	50	50
Standard Deviation		0.62	0	312	96	419	0	ND	ND	0	115	0
Number of Guideline Exceedances		0	0	12	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)		0	0	12	0	0	0	0	0	0	0	0

Field_ID	Lab_Report_Number	BTEX: Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.1	0.1	0.1	0.1	0.2	0.3
NEPM 2013 Table 1A(1) HILs Res A Soil							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand							
0-1m		0.5	55	160			40
1-2m		0.5	NL	220			60
2-4m		0.5	NL	310			95
>4m		0.5	NL	540			170
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m		50	70	85			105
Detailed Site Investigation							
BH11_0.5-1.0	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH12_2.5-3.0	716335	-	-	-	-	-	-
BH12_3.0-3.5	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH12_3.0-3.5	716335	-	-	-	-	-	-
BH13_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH14_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH15_0.5-1.0	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH16_0.0-0.1	714933	-	-	-	-	-	-
HA06 0-0.1	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA06 0-0.1	716335	-	-	-	-	-	-
QA20200407-1	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
QC 20200407-1	240785	<0.2	<1	<0.5	<1	<2	<3
HA07 0.2-0.3	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA08 0.2-0.3	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA09 0-0.1	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA10 0-0.1	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA11 0.4-0.5	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA12 0-0.1	713049	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP1_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP1_1.0-1.5	714933	-	-	-	-	-	-
TP2_0.0-0.1	714933	-	-	-	-	-	-
TP2_1.5-2.0	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP2_1.5-2.0	716335	-	-	-	-	-	-
TP3_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP4_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
QC20200421	241327	<0.2	<1	<0.5	<1	<2	<3
QA20200421	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP4_1.0-1.5	716335	-	-	-	-	-	-
TP5_0.5-1.0	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP6_1.0-1.5	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP7_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP7_0.6-0.7	714933	-	-	-	-	-	-
TP8_0.0-0.1	714933	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP8_0.5-0.6	714933	-	-	-	-	-	-
Statistical Summary							
Number of Results		47	47	47	47	47	47
Number of Detects		0	2	0	4	4	4
Minimum Concentration		<0.1	<0.1	<0.1	<1	<0.2	<0.3
Minimum Detect		ND	0.2	ND	0.3	0.2	0.6
Maximum Concentration		<0.2	0.5	<0.5	1.2	3.3	4.5
Maximum Detect		<0.2	<1	<0.5	<1	<2	<3
Average Concentration		-	-	-	-	-	-
Median Concentration		-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-
Number of Guideline Exceedances		0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)		0	0	0	0	0	0

Field_ID	Lab_Report_Number	PAH: Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TEQ	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Total)
		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
NEPM 2013 Table 1A(1) HILs Res A Soil							3												300
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																			
0-1m																3			
1-2m																NL			
2-4m																NL			
>4m																NL			
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*																170			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m						0.7													
Detailed Site Investigation																			
BH11_0.5-1.0	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
BH12_2.5-3.0	716335	<0.5	<0.5	0.7	7.3	12	18.51	8.8	11	9	8.1	3	12	<0.5	8.1	<0.5	2.6	14	96.6
BH12_3.0-3.5	714933	<0.5	<0.5	<0.5	1.8	3	4.522	2.4	2.2	2.9	2	0.6	2.7	<0.5	1.7	<0.5	0.6	3.1	23
BH12_3.0-3.5	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
BH14_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
BH15_0.5-1.0	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
BH16_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
HA06 0-0.1	713049	<5	<5	<5	8.4	13	19.28	11	<10	12	9	<5	9.6	<5	<10	<5	<5	11	74
HA06 0-0.1	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20200407-1	713049	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	7.7	14.7
QC 20200407-1	240785	<0.1	<0.1	0.2	2.7	3.2	4.398	5.1	2		1.8	0.7	3.8	<0.1	1.9	<0.1	1	3.8	26
HA07 0.2-0.3	713049	<0.5	<0.5	<0.5	2.1	2.3	3.298	2.4	1.1	1.6	1.7	<0.5	3.2	<0.5	1.1	<0.5	1.1	3.1	19.7
HA08 0.2-0.3	713049	<0.5	0.6	1.1	5.6	5.6	8.848	5.5	3.3	3.5	4.5	1.4	9.1	<0.5	3.1	<0.5	4.3	9	56.6
HA09 0-0.1	713049	<0.5	<0.5	<0.5	0.6	0.7	1.132	0.6	0.6	<0.5	0.6	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	4.9
HA10 0-0.1	713049	<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	<0.5	<0.5	<0.5	<0.5	<0.5
HA11 0.4-0.5	713049	<0.5	<0.5	<0.5	0.8	0.7	1.184	0.7	<0.5	0.5	0.6	<0.5	1.5	<0.5	<0.5	<0.5	1.4	1.4	7.6
HA12 0-0.1	713049	<0.5	<0.5	<0.5	0.8	0.7	1.482	0.6	<1	0.8	0.7	<1	1.8	<0.5	<1	<0.5	1.4	1.6	8.4
TP1_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	0.6	0.6
TP1_1.0-1.5	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP2_0.0-0.1	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	714933	<0.5	<0.5	0.7	8.4	11	16.6	9.1	6.6	8.2	7.9	2.3	12	<0.5	5.8	<0.5	2.7	14	88.7
TP2_1.5-2.0	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP4_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
QC20200421	241327	<0.1	<0.1	<0.1	<0.1	<0.05	<0.172	<0.2	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
QA20200421	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP4_1.0-1.5	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5_0.5-1.0	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP6_1.0-1.5	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP7_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP7_0.6-0.7	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5
TP8_0.5-0.6	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																			
Number of Results		44	44	44	44	44	-	44	44	41	44	44	44	44	44	44	44	44	44
Number of Detects		2	3	9	17	18	-	16	13	14	18	10	19	1	13	1	16	20	20
Minimum Concentration		<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
Minimum Detect		0.1	0.5	0.2	0.6	0.7	-	0.6	0.6	0.5	0.6	0.6	0.8	3.1	0.7	0.1	0.5	0.6	0.6
Maximum Concentration		<5	<5	15	26	23	-	15	11	24	29	<5	100	<5	15	<5	48	90	402
Maximum Detect		4.5	0.6	15	26	23	-	15	11	24	29	3	100	3.1	15	0.1	48	90	402
Average Concentration		0.44	0.36	0.81	2.4	2.9	-	2.3	1.6	2.5	2.5	0.61	5.4	0.4	1.8	0.34	2.3	-	28
Median Concentration		0.25	0.25	0.25	0.25	0.25	-	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-	0.25
Standard Deviation		0.79	0.48	2.3	4.7	5.1	-	3.8	2.6	4.9	5.3	0.73	16	0.63	3.2	0.48	7.3	-	68
Number of Guideline Exceedances		0	0	0	0	19	-	0	0	0	0	0	0	0	0	2	0	0	1
Number of Guideline Exceedances(Detects Only)		0	0	0	0	18	-	0	0	0	0	0	0	0	0	0	0	0	1

Field_ID	Lab_Report_Number	Inorganic: EC 1:5 soil:water	Cation Exchange Capacity	pH 1:5 soil:water	% Clay
		µS/cm	meq/100g	ph Units	%
EQL		10	0.05	0.1	1
NEPM 2013 Table 1A(1) HILs Res A Soil					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand					
0-1m					
1-2m					
2-4m					
>4m					
NEPM 2013 Table 1B(1-5) Generic EIL - Urban Residential and Public Open Space*					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil 0-2 m					
Detailed Site Investigation					
BH11_0.5-1.0	714933	-	-	-	-
BH12_2.5-3.0	716335	-	-	-	-
BH12_3.0-3.5	714933	-	-	-	-
BH12_3.0-3.5	716335	-	-	-	-
BH13_0.0-0.1	714933	-	-	-	-
BH14_0.0-0.1	714933	-	-	-	-
BH15_0.5-1.0	714933	-	-	-	-
BH16_0.0-0.1	714933	-	-	-	-
HA06 0-0.1	713049	-	-	-	-
HA06 0-0.1	716335	-	-	-	-
QA20200407-1	713049	-	-	-	-
QC 20200407-1	240785	-	-	-	-
HA07 0.2-0.3	713049	-	-	-	-
HA08 0.2-0.3	713049	-	-	-	-
HA09 0-0.1	713049	-	-	-	-
HA10 0-0.1	713049	-	-	-	-
HA11 0.4-0.5	713049	-	-	-	-
HA12 0-0.1	713049	-	-	-	-
TP1_0.0-0.1	714933	-	-	-	-
TP1_1.0-1.5	714933	-	-	-	-
TP2_0.0-0.1	714933	-	-	-	-
TP2_1.5-2.0	714933	-	-	-	-
TP2_1.5-2.0	716335	-	-	-	-
TP3_0.0-0.1	714933	-	-	-	-
TP4_0.0-0.1	714933	-	-	-	-
QC20200421	241327	-	-	-	-
QA20200421	714933	-	-	-	-
TP4_1.0-1.5	716335	22	1.4	3.4	<1
TP5_0.5-1.0	714933	-	-	-	-
TP6_1.0-1.5	714933	-	-	-	-
TP7_0.0-0.1	714933	-	-	-	-
TP7_0.6-0.7	714933	35	1.3	4.3	5.7
TP8_0.0-0.1	714933	-	-	-	-
TP8_0.5-0.6	714933	-	-	-	-
Statistical Summary					
Number of Results		2	2	2	2
Number of Detects		2	2	2	2
Minimum Concentration		22	1.3	3.4	<1
Minimum Detect		22	1.3	3.4	<1
Maximum Concentration		35	1.4	4.3	5.7
Maximum Detect		35	1.4	4.3	5.7
Average Concentration		28.5	1.35	3.85	-
Median Concentration		28.5	1.35	3.85	-
Standard Deviation		-	-	-	-
Number of Guideline Exceedances		0	0	0	0
Number of Guideline Exceedances(Detects Only)		0	0	0	0

* Based on site derived ecological data including clay % CEC and pH

Table B: Asbestos in Soil Results
Project Number: 58081
Project Name: Kambala Sports Precinct

					Asbestos					
					Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported Result	Asbestos Sample Dimensions	Asbestos Field Observation
					g	%w/w	%w/w	Comment	Comment	Comment
EQL										
NEPM 2013 Soil HSL A Bonded ACM						0.01%				
NEPM 2013 Soil HSL Friable Asbestos and Asbestos Fines							0.001%			
Field_ID	**LocCode**	**Sampled_Date-Time**	**Matrix_Description**	**Lab_Report_Number**						
Preliminary Site Investigation										
BH03_2.5-2.6	BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	749	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH04_0-0.1	BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	677	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH06_0.3-0.4	BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	757	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH07_0-0.1	BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	775	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH07_4.0-4.1	BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	917	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH08_0-0.1	BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	525	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH09_1.5-1.6	BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	726	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH10_0-0.1	BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	798	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA01_0-0.1	HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	365	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QC-01	HA01_0-0.1	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	366	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QA-01	QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	347	-	<0.001	No Asbestos detected at the Reporting Limit of 0.1 g/kg. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA02_0.4-0.5	HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	679	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA03_0.9-1.0	HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	515	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA04_0-0.1	HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	680	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA05_1.0-1.1	HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	609	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
Detailed Site Investigation										
BH11_0.5-1.0	BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	745	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH12_3.0-3.5	BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	933	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed

Table B: Asbestos in Soil Results
Project Number: 58081
Project Name: Kambala Sports Precinct

	Asbestos					
	Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported Result	Asbestos Sample Dimensions	Asbestos Field Observation
	g	%w/w	%w/w	Comment	Comment	Comment
EQL						
NEPM 2013 Soil HSL A Bonded ACM		0.01%				
NEPM 2013 Soil HSL Friable Asbestos and Asbestos Fines			0.001%			

Field_ID	LocCode	Sampled_Date-Time	Matrix_Description	Lab_Report_Number						
BH13_0.0-0.1	BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	766	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH14_0.0-0.1	BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	628	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH15_0.5-1.0	BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	738	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
BH16_0.0-0.01	BH16_0.0-0.01	20-Apr-20	Borehole within Sportsfield	714933	676	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
FRAG-01	FRAG-01	07-Apr-20	ACM fragment identified at north-western boundary	713049	13	0	0	**Chrysotile and amosite asbestos detected.**	45x40x4 mm	No visible ACM observed
FRAG-02	FRAG-02	07-Apr-20	ACM fragment identified at north-western boundary	713049	10	0	0	**Chrysotile and amosite asbestos detected.**	50x35x4 mm	No visible ACM observed
HA06 0-0.1	HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	636	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QA20200407-1	HA06 0-0.1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	521	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QC 20200407-1	QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	529	-	<0.001	No Asbestos detected at the Reporting Limit of 0.1 g/kg. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA07 0.2-0.3	HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	489	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA08 0.2-0.3	HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	547	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA09 0-0.1	HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	280	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA10 0-0.1	HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	577	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
HA11 0.4-0.5	HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	895	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	**Single ACM fragment observed (FRAG 01)**
HA12 0-0.1	HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	778	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	**Single ACM fragment observed (FRAG 02)**
TP1_0.0-0.1	TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	689	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP2_0.0-0.1	TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	647	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP2_1.5-2.0	TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	624	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed

Table B: Asbestos in Soil Results
Project Number: 58081
Project Name: Kambala Sports Precinct

	Asbestos					
	Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Reported Result	Asbestos Sample Dimensions	Asbestos Field Observation
	g	%w/w	%w/w	Comment	Comment	Comment
EQL						
NEPM 2013 Soil HSL A Bonded ACM		0.01%				
NEPM 2013 Soil HSL Friable Asbestos and Asbestos Fines			0.001%			

Field_ID	LocCode	Sampled_Date-Time	Matrix_Description	Lab_Report_Number						
TP3_0.0-0.1	TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	634	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP4_0.0-0.1	TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	778	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QA20200421	TP4_0.0-0.1	21-Apr-20	Triplicate sample of TP4_0-0.1	714933	795	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
QC20200421	QC20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	241327	684	-	<0.001	No Asbestos detected at the Reporting Limit of 0.1 g/kg. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP5_0.5-1.0	TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	778	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP6_1.0-1.5	TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	886	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP7_0.0-0.1	TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	751	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed
TP8_0.5-0.6	TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	849	0	0	No Asbestos detected at the Reporting Limit of 0.001% w/w. Organic Fibre detected. No trace asbestos detected.	-	No visible ACM observed

Table C: Soil Analytical Results - Waste Classification
Job Number: 58081
Job Name: Kambala Sports Precinct

				Heavy Metal								OCP																													
				Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	Hexachlorobenzene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	beta-BHC	alpha-Chlordane	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	gamma-Chlordane	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
				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	5	5	5	0.1	5	5	0.05	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	0.1	0.1
NSW 2014 General Solid Waste CT1 (without TCLP)				100	20	100		100	4	40																													
NSW 2014 General Solid Waste SCC1 (with TCLP)				500	100	1900		1500	50	1050																													
Field_ID	Sampled_Dat	Matrix_Description	Lab_Report_Number																																						
Preliminary Site Investigation																																								
BH03_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	5.2	10	9	<0.1	<5	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.4	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	6.5	5.3	<0.1	<5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_1.0-1.1	08-Jan-19	Borehole within Sportsfield	635079	60	<0.4	17	37	74	0.2	29	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	8.5	30	<0.1	<5	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_3.0-3.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.2	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	7.2	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_1.5-1.6	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	18	47	<0.1	<5	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1.5-1.6	08-Jan-19	Borehole within Sportsfield	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	<5	<0.1	<5	<5	<0.05	<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	<0.1	<0.1
BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	<5	8.8	<0.1	<5	8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH08_3.5-3.6	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	7	5.2	18	<0.1	<5	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	<5	17	9.7	<0.1	<5	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	6.2	<5	<5	<0.1	<5	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_4.0-4.1	08-Jan-19	Borehole within Sportsfield	635079	<2	<0.4	14	<5	9.7	<0.1	<5	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	2.3	<0.4	<5	<5	8.5	<0.1	<5	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_1.0-1.1	09-Jan-19	Borehole within Sportsfield	635079	10	<0.4	15	<5	18	<0.1	<5	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	2.3	<0.4	8.3	43	220	<0.1	<5	390	<0.05	<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	<0.1	<0.1
QC-01	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	2.2	<0.4	10	41	230	<0.1	<5	430	<0.05	<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	<0.1	<0.1
QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	<4	<0.4	8	59	290	0.1	4	550	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	2.2	<0.4	6.4	39	170	0.1	<5	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0-0.1	08-Jan-19	Handauger within Embankment	635079	3.1	<0.4	8.4	50	180	<0.1	<5	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	2.3	<0.4	5.6	44	130	<0.1	<5	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0-0.1	08-Jan-19	Handauger within Embankment	635079	2.1	<0.4	6.7	32	120	0.1	<5	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	5.9	14	39	<0.1	<5	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	3.1	<0.4	7.8	6	17	<0.1	<5	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04_1.4-1.5	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	<5	<5	9.1	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_0-0.1	08-Jan-19	Handauger within Embankment	635079	<2	<0.4	6.9	8.6	10	<0.1	<5	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	2.1	<0.4	<5	<5	9.8	<0.1	<5	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Detailed Site Investigation																																								
BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	4.9	<0.4	8.8	<5	<5	<0.1	<5	<5	<0.05	<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	<0.2	<1	<0.2	<0.2
BH12_2.5-3.0	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	<5	14	600	<0.1	<5	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	<5	<5	8.1	<0.1	<5	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	2.7	<0.4	6.3	<5	14	<0.1	<5	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<2	<0.4	6.5	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	7.9	<0.4	10	11	21	<0.1	<5	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	5.2	<0.4	9.5	43	170	0.1	<5	240	<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	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
HA06 0-0.1	07-Apr-20	Handauger within Embankment	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20200407-1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	3.2	<0.4	7.6	60	220	0.1	<5	400	<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	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	<4	<0.4	8	46	120	<0.1	5	320	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-
HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	3.6	<0.4	7.3	65	140	0.1	<5	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	2.8	<0.4	7.4	30	95	<0.1	<5	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	2.7	0.5	9.1	48	80	0.2	<5	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	2.7	<0.4	5.4	5.8	17	<0.1	<5	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	<2	0.4	6.4	<5	50	<0.1	6.5	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	<2	<0.4	<5	5.2	35	<0.1	<5	67	<0.05	<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	<0.05	<0.2	<1	<0.2	<0.2
TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	5.5	<0.4	7.2	24	49	<0.1	<5	49	<0.05	<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	<0.05	<0.2	<1	<0.2	<0.2
TP1_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	2	<0.4	<5	5.1	6	<0.1	<5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	3.5	<0.4	13	40	59	0.1	<5	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	5.9	<0.4	6.1	5.2	13	<0.1	<5	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	8.2	<0.4	6.4	<5	17	<0.1	<5	12	<0.05	<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	<0.05	<0.2	<1	<0.2	<0.2
QC20200421	21-Apr-20	Triplicate sample of TP4_0-0.1	241327	5	<0.4	5	4	16	<0.1	2	12	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
QA20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	714933	8.7	<0.4	6.3	<5	13	<0.1	<5	15	<0.05	<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	<0.05	<0.2	<1	<0.2	<0.2
TP4_1.0-1.5	21-Apr-20	Testpit within Sportsfield	716335	<2	<0.4	<5	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	5.6	<0.4	13	<5	14	<0.1	<5	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	<2	<0.4	<5	<5	8.5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	6	<0.4	12	10	25	<0.1	5.6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7_0.6-0.7	21-Apr-20	Testpit within Sportsfield	714933	<2	<0.4	5.6	<5	<5	<0.1	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	2.6	<0.4	<5	7	13	<0.1	<5	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C: Soil Analytical Results - Waste Classification
Job Number: 58081
Job Name: Kambala Sports Precinct

				PCB								TRH											BTEX					
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	C6-C9 Fraction	>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)	>C10-C16 Fraction (Silica Gel)	>C16-C34 Fraction (Silica Gel)	>C34-C40 Fraction (Silica Gel)	Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)
				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				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	20	50	100	100	100	50	20	20	50	100	100	0.1	0.1	0.1	0.1	0.2	0.3
NSW 2014 General Solid Waste CT1 (without TCLP)											<50	650				10,000							10	600	288			1000
NSW 2014 General Solid Waste SCC1 (with TCLP)											<50	650				10,000							18	1080	518			1800
Field_ID	**Sampled_Dat**	**Matrix_Description**	**Lab_Report_Number**																									
Preliminary Site Investigation																												
BH03_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH04_1.0-1.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH06_3.0-3.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH07_1.5-1.6	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1.5-1.6	08-Jan-19	Borehole within Sportsfield	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH08_3.5-3.6	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH09_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH09_4.0-4.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH10_1.0-1.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<50	1700	450	2150	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	0.8	1.4	2.1
QC-01	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<50	510	310	820	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	0.3	0.2	0.6
QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	420	220	640	<50	<25	<25	-	-	-	<0.2	<1	<0.5	<1	<2	<1
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	636837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	290	180	470	<50	<20	<20	-	-	-	<0.1	0.5	<0.1	1.2	3.3	4.5
HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	460	190	650	<50	<20	<20	-	-	-	<0.1	0.2	<0.1	0.8	2	2.8
HA03_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	500	130	630	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA04_1.4-1.5	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA05_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
Detailed Site Investigation																												
BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH12_2.5-3.0	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	160	<100	160	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	-	-	-	-	-	-
BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
BH16_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	1000	290	1290	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA06 0-0.1	07-Apr-20	Handauger within Embankment	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<100	-	-	-	-	-	-
QA20200407-1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	-	-	-	-	-	-	-	-	<20	<50	570	190	760	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	-	-	-	-	-	-	-	-	<25	<50	460	370	830	<50	<25	<25	-	-	-	<0.2	<1	<0.5	<1	<2	<3
HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	460	190	650	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	580	190	770	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	360	170	530	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	110	<100	110	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	110	<100	110	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	-	-	-	-	-	-	-	-	<20	<50	130	<100	130	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP1_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	580	140	720	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	250	<100	-	-	-	-	-	-
TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
QC20200421	21-Apr-20	Triplicate sample of TP4_0-0.1	241327	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<50	<25	<25	-	-	-	<0.2	<1	<0.5	<1	<2	<3
QA20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	714933	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP4_1.0-1.5	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP7_0.6-0.7	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	<20	<50	<100	<100	<100	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3
TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table C: Soil Analytical Results - Waste Classification
Job Number: 58081
Job Name: Kambala Sports Precinct

				PAH																		Inorganic			
				Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TEQ	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Total)	EC 1:5 soil:water	Cation Exchange Capacity	pH 1:5 soil:water	% Clay
				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	µS/cm	meq/100g	ph Units	%
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	10	0.05	0.1	1
NSW 2014 General Solid Waste CT1 (without TCLP)								0.8													200				
NSW 2014 General Solid Waste SCC1 (with TCLP)								10													200				
Field_ID	**Sampled_Dat**	**Matrix_Description**	**Lab_Report_Number**																						
Preliminary Site Investigation																									
BH03_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	09-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH04_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH04_1.0-1.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0.3-0.4	08-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH06_3.0-3.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH07_1.5-1.6	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07-1.5-1.6	08-Jan-19	Borehole within Sportsfield	636837	<0.5	<0.5	1.5	12	18	24.67	13	10	15	17	1.2	31	<0.5	12	<0.5	10	33	173.7	-	-	-	-
BH07_4.0-4.1	09-Jan-19	Borehole within Sportsfield	635079	<0.5	<0.5	<0.5	<0.5	0.8	1.204	<0.5	<0.5	<0.5	0.6	<0.5	1	<0.5	0.7	<0.5	0.5	1.1	4.7	-	-	-	-
BH08_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH08_3.5-3.6	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0-0.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_1.5-1.6	08-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH09_4.0-4.1	08-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0-0.1	09-Jan-19	Borehole within Sportsfield	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH10_1.0-1.1	09-Jan-19	Borehole within Sportsfield	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0-0.1	08-Jan-19	Handauger within Embankment	635079	4.5	<0.5	15	26	23	32.97	15	7.8	24	29	1.6	100	3.1	15	<0.5	48	90	402	-	-	-	-
QC-01	08-Jan-19	Duplicate sample of HA01_0-0.1	635079	<0.5	<0.5	<0.5	3.1	4.8	6.492	3.1	2.6	4.1	3.6	<0.5	7.2	<0.5	3.5	<0.5	1.6	8.2	41.8	-	-	-	-
QA-01	08-Jan-19	Triplicate sample of HA01_0-0.1	209223	0.1	0.5	0.7	3.5	4.8	6.155	7.5	3		3.5	0.7	4.7	<0.1	2.4	0.1	1.9	4.9	38	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01_0.9-1.0	08-Jan-19	Handauger within Embankment	636837	<0.5	<0.5	2	8.9	9	13.45	6.3	3.6	7.8	8.2	1.5	17	<0.5	5.3	<0.5	8.2	17	94.8	-	-	-	-
HA02_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02_0.4-0.5	08-Jan-19	Handauger within Embankment	635079	<0.5	0.6	0.7	3.4	3.9	5.806	2.8	2.3	3.5	3.3	0.7	6.3	<0.5	1.8	<0.5	2	6.2	37.5	-	-	-	-
HA03_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA03_0.9-1.0	08-Jan-19	Handauger within Embankment	635079	<0.5	<0.5	<0.5	0.7	0.8	1.261	<0.5	<0.5	0.8	0.8	<0.5	1.7	<0.5	<0.5	<0.5	0.5	1.6	6.9	-	-	-	-
HA04_0-0.1	08-Jan-19	Handauger within Embankment	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
HA04_1.4-1.5	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_0-0.1	08-Jan-19	Handauger within Embankment	635079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05_1.0-1.1	08-Jan-19	Handauger within Embankment	635079	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
Detailed Site Investigation																									
BH11_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH12_2.5-3.0	20-Apr-20	Borehole within Sportsfield	716335	<0.5	<0.5	0.7	7.3	12	18.51	8.8	11	9	8.1	3	12	<0.5	8.1	<0.5	2.6	14	96.6	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	714933	<0.5	<0.5	<0.5	1.8	3	4.522	2.4	2.2	2.9	2	0.6	2.7	<0.5	1.7	<0.5	0.6	3.1	23	-	-	-	-
BH12_3.0-3.5	20-Apr-20	Borehole within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH14_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH15_0.5-1.0	20-Apr-20	Borehole within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
BH16_0.0-0.1	20-Apr-20	Borehole within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	713049	<5	<5	<5	8.4	13	19.28	11	<10	12	9	<5	9.6	<5	<10	<5	<5	11	74	-	-	-	-
HA06 0-0.1	07-Apr-20	Handauger within Embankment	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20200407-1	07-Apr-20	Duplicate sample of HA06_0-0.1	713049	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	<5	<5	7	<5	<5	<5	<5	7.7	14.7	-	-	-	-
QC 20200407-1	07-Apr-20	Triplicate sample of HA06_0-0.1	240785	<0.1	<0.1	0.2	2.7	3.2	4.398	5.1	2		1.8	0.7	3.8	<0.1	1.9	<0.1	1	3.8	26	-	-	-	-
HA07 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	<0.5	<0.5	<0.5	2.1	2.3	3.298	2.4	1.1	1.6	1.7	<0.5	3.2	<0.5	1.1	<0.5	1.1	3.1	19.7	-	-	-	-
HA08 0.2-0.3	07-Apr-20	Handauger within Embankment	713049	<0.5	0.6	1.1	5.6	5.6	8.848	5.5	3.3	3.5	4.5	1.4	9.1	<0.5	3.1	<0.5	4.3	9	56.6	-	-	-	-
HA09 0-0.1	07-Apr-20	Handauger within Embankment	713049	<0.5	<0.5	<0.5	0.6	0.7	1.132	0.6	0.6	<0.5	0.6	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	1	4.9	-	-	-	-
HA10 0-0.1	07-Apr-20	Handauger within Embankment	713049	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
HA11 0.4-0.5	07-Apr-20	Handauger within Embankment	713049	<0.5	<0.5	<0.5	0.8	0.7	1.184	0.7	<0.5	0.5	0.6	<0.5	1.5	<0.5	<0.5	<0.5	1.4	1.4	7.6	-	-	-	-
HA12 0-0.1	07-Apr-20	Handauger within Embankment	713049	<0.5	<0.5	<0.5	0.8	0.7	1.482	0.6	<1	0.8	0.7	<1	1.8	<0.5	<1	<0.5	1.4	1.6	8.4	-	-	-	-
TP1_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	0.6	0.6	-	-	-	-
TP1_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP2_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	714933	<0.5	<0.5	0.7	8.4	11	16.6	9.1	6.6	8.2	7.9	2.3	12	<0.5	5.8	<0.5	2.7	14	88.7	-	-	-	-
TP2_1.5-2.0	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP4_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
QC20200421	21-Apr-20	Triplicate sample of TP4_0-0.1	241327	<0.1	<0.1	<0.1	<0.1	<0.05	<0.172	<0.2	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-
QA20200421	21-Apr-20	Duplicate sample of TP4_0-0.1	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP4_1.0-1.5	21-Apr-20	Testpit within Sportsfield	716335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	1.4	3.4	<1
TP5_0.5-1.0	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP6_1.0-1.5	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP7_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP7_0.6-0.7	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	1.3	4.3	5.7
TP8_0.0-0.1	21-Apr-20	Testpit within Sportsfield	714933	<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	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-
TP8_0.5-0.6	21-Apr-20	Testpit within Sportsfield	714933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D: Soil TCLP Analytical Results
Project Number: 58081
Project Name: Kambala Sports Precinct

			ASLP			Heavy Metal	PAH																TCLP			
			pH (TCLP - initial)	pH (TCLP - off)	pH (Leachate fluid)	Lead	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	PAHs (Total)	Pyrene	pH (TCLP - HCl addition)	pH (TCLP - initial)	pH (TCLP - off)	pH (Leachate fluid)
			ph Units	ph Units	ph Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ph Units	ph Units	ph Units	ph Units
EQL			0.1	0.1	0.1	0.01	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste TCLP1						5					0.04																
Field_ID	**LocCode**	**Sampled_Date-Time**																									
BH07_4.0-4.1	BH07_4.0-4.1	08-Jan-19	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.6	6.1	4.8	5
BH12_3.0-3.5	BH12_3.0-3.5	20-Apr-20	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	3.7	5.1	-
HA01_0-0.1	HA01_0-0.1	08-Jan-19	-	-	-	0.07	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.6	5.7	4.9	5
HA02_0-0.1	HA02_0-0.1	08-Jan-19	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4.8	5
HA06 0-0.1	HA06 0-0.1	07-Apr-20	4.8	5.1	5	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001 - 0.004	<0.001	<0.001 - 0.001	<0.001 - 0.005	<0.001	1.7	4.8	5.1	-
HA08 0.2-0.3	HA08 0.2-0.3	07-Apr-20	5.5	5.3	5	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.7	5.5	5	-
TP2_1.5-2.0	TP2_1.5-2.0	21-Apr-20	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.6	3.6	5.1	-
Statistical Summary																											
Number of Results			2	2	2	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	7	7	3
Number of Detects			2	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	6	7	7	3
Minimum Concentration			4.8	5.1	5	0.03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.6	3.6	4.8	5
Minimum Detect			4.8	5.1	5	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	3.6	4.8	5
Maximum Concentration			5.5	5.3	5	0.13	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.001	0.005	<0.001	1.7	6.1	5.1	5
Maximum Detect			5.5	5.3	5	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.004	ND	0.001	0.005	ND	1.7	6.1	5.1	5
Average Concentration						0.077	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00085	0.0005	0.00055	0.00095	0.0005	1.6	4.9	5	5
Median Concentration			5.15	5.2	5	0.07	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	1.6	5	5	5
Standard Deviation						0.05	0	0	0	0	0	0	0	0	0	0	0	0	0.00078	0	0.00011	0.001	0	0.052	0.97	0.14	0
Number of Guideline Exceedances			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix A Borelogs

HA01

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 1.1
Bore Diameter (mm): 130

Eastings (GDA 94): 340240.19
Northings (GDA 94): 6251433.232
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Brown silty sand, dry, loose and heterogeneous. Inclusions of grass and rootlets.	HA01 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining. (QA/QC)
						HA01 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
	0.5	0.40		Fill	Brown sand. Dry/damp, loose and heterogeneous.		
	1.0	0.90		SW	Brown/yellow sand. Damp. Loose, coarse and heterogeneous.	HA01 0.9-1.0 PID = 0 ppm	No asbestos, odours or staining.
	1.5	1.10			Borehole HA01 terminated at 1.1m		Hole incision.
	2.0						

HA02

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 0.7
Bore Diameter (mm): 130

Eastings (GDA 94): 340251.949
Northings (GDA 94): 6251442.447
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Brown silty sand. Dry, loose, heterogeneous. Inclusiuon of geofabric and rootlets.	HA02 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
		0.30		Fill	Brown sand. Dry/damp, loose and heterogeneous. Inclusions of rootlets.		
	0.5					HA02 0.4-0.5 PID = 0 ppm	No asbestos, odours or staining.
		0.70			Borehole HA02 terminated at 0.7m		Refusal on tree root.
	1.0						
	1.5						
	2.0						

HA03

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 1.6
Bore Diameter (mm): 130

Eastings (GDA 94): 340255.081
Northings (GDA 94): 6251462.882
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Brown silty sand. Dry, loose, medium grained, heterogeneous and low plasticity. Inclusions of grass, geofabric and rootlets.	HA03 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
	0.5					HA03 0.4-0.5 PID = 0 ppm	No asbestos, odours or staining.
		0.50		Fill	Yellow/brown silty sand. Damp, firm, medium grained, low plasticity		
	1.0					HA03 0.9-1.0 PID = 0 ppm	No asbestos, odours or staining.
	1.5					HA03 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining. Refusal/hole incision.
		1.60			Borehole HA03 terminated at 1.6m		
	2.0						

HA04

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 1.5
Bore Diameter (mm): 130

Eastings (GDA 94): 340204.989
Northings (GDA 94): 6251475.01
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Brown silty sand. Dry, heterogeneous, low plastcitiy, medium grained, firm. Inclusions of grass and rootlets.	HA04 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
		0.30		Fill	Grey/brown sand. Dry/damp, medium grained and heterogeneous.		
	0.5					HA04 0.4-0.5 PID = 0 ppm	No asbestos, odours or staining.
	1.0					HA04 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
		1.20		Fill	Brown/black silty sand. Damp, medium grained, low plasticity, firm-stiff and heterogeneous.		
	1.5					HA04 1.4-1.5 PID = 0 ppm	No asbestos, odours or staining. Hole incision.
		1.50			Borehole HA04 terminated at 1.5m		
	2.0						

HA05

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 1.25
Bore Diameter (mm): 130

Eastings (GDA 94): 340190.579
Northings (GDA 94): 6251490.579
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Hand Auger				Fill	Brown/black silty sand. Dry/damp, coarse grained, low plasticity and heterogeneous. Inclusions of grass.	HA05 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
		0.30		Fill	Brown/yellow grey silty sand. Damp, coarse grained, low plasticity and heterogeneous.	HA05 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
	0.5						
		0.70		Fill	Black/yellow sand. Damp, coarse grained and heterogeneous. Slightly silty.		
	1.0					HA05 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
		1.25			Borehole HA05 terminated at 1.25m		Hole incision.
	1.5						
	2.0						

HA06

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Kambala

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.9
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	Fill - Silty SAND - Brown, Heterogeneous, Damp, Fine-grained Sand with inclusions of Plastic Wrapping, Metal, Leaf Litter and Organic Material	HA06 0.0-0.1 PID = 1.4 ppm	No odours, stains or ACM noted.
		0.20		Fill	Fill - Silty SAND - Brown, Heterogeneous, Damp, Fine-grained Sand with inclusions of Roots	HA06 0.2-0.3 PID = 1.6 ppm	No odours, stains or ACM noted.
		0.40		SC	Clayey SAND - Brown, Homogeneous, Damp, Soft, Low Plasticity, Medium to Fine Grained	HA06 0.4-0.5 PID = 1.2 ppm	No odours, stains or ACM noted.
	0.5						
		0.90			Test Pit HA06 terminated at 0.9m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

HA07

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Kambala

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.9
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	Fill - Silty SAND - Brown, Heterogeneous, Damp, Fine-grained Sand, Non-Plastic with inclusions of Plastic Wrapping, Metal, Organic Material and Rootlets	HA07 0.0-0.1 PID = 1.8 ppm	No odours, stains or ACM noted.
		0.20		Fill	Fill - Silty SAND - Brown, Heterogeneous, Damp, Fine-grained Sand, Non-Plastic with inclusions of Organic Material and Rootlets	HA07 0.2-0.3 PID = 1.9 ppm	No odours, stains or ACM noted.
	0.5	0.40		SC	Clayey SAND - Brown, Homogeneous, Damp, Soft, Low Plasticity, Medium to Fine Grained	HA07 0.4-0.5 PID = 2.1 ppm	No odours, stains or ACM noted.
		0.90			Test Pit HA07 terminated at 0.9m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

TEST PIT JBSG TEST PIT - 2017.GPJ GINT STD AUSTRALIA.GDT 5/27/20

HA08

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.4
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	(Topsoil) - Fill - Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Plastic Wrapping, Metal Fencing, Organic Material	HA08 0.0-0.1 PID = 1.9 ppm	No odours, stains or ACM noted.
		0.20		SM	Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Roots	HA08 0.2-0.3 PID = 1.6 ppm	No odours, stains or ACM noted.
		0.40			Test Pit HA08 terminated at 0.4m		Refusal on Tree Roots
	0.5						
	1.0						
	1.5						
	2.0						
	2.5						

HA09

Project Number: 58081
Client: **Kambala School c/-** CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.8
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	(Topsoil) - Fill - Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Plastic Wrapping, Metal Fencing	HA09 0.0-0.1 PID = 1.5 ppm	No odours, stains or ACM noted.
		0.20		SM	Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Roots and Rootlets	HA09 0.2-0.3 PID = 1.3 ppm	No odours, stains or ACM noted.
	0.5	0.40		SC	Clayey SAND - Brown, Homogeneous, Damp, Soft, Low Plasticity, Fine Grained, Loose	HA09 0.4-0.5 PID = 1.7 ppm	No odours, stains or ACM noted.
		0.80			Test Pit HA09 terminated at 0.8m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

HA10

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.8
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	(Topsoil) - Fill - Silty SAND - Brown, Heterogeneous, Dry, Fine Grained, Loose with inclusions of Gravels, Rootlets, organic material	HA10 0.0-0.1 PID = 1.8 ppm	No odours, stains or ACM noted.
		0.20		SM	Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Gravels, Rootlets and Organic Material	HA10 0.2-0.3 PID = 2.1 ppm	No odours, stains or ACM noted.
	0.5	0.40		SM	Silty SAND - Brown, Heterogeneous, Fine-grained, Non-Plastic, Loose with inclusions of Gravels, Rootlets, Organic Material and Clay Clasts	HA10 0.4-0.5 PID = 2 ppm	No odours, stains or ACM noted.
		0.80			Test Pit HA10 terminated at 0.8m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

TEST PIT JBSG TEST PIT - 2017.GPJ GINT STD AUSTRALIA.GDT 5/21/20

HA11

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 1
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	Fill - SAND - Grey, Heterogeneous, Moist, Medium Density, Fine - Medium Grained with inclusions of Bricks, ACM, Metal, Tennis Ball, Trace Gravels and Rootlets	HA11 0.0-0.1 PID = 2.1 ppm	No odours or stains noted. ACM Fragmented Identified (Frag_01) at HA11 0.0-0.1
		0.20		SW	SAND - Grey, Heterogeneous, Moist, Medium Density, Fine - Medium Grained	HA11 0.2-0.3 PID = 1.8 ppm	No odours, stains or ACM noted.
	0.5	0.40		SW	SAND - Grey, Heterogeneous, Moist, Medium Density, Fine - Medium Grained	HA11 0.4-0.5 PID = 1.9 ppm	No odours, stains or ACM noted.
		0.80		SW	SAND - Yellow - Brown, Heterogeneous, Moist, Medium Density, Fine - Medium Grained		
	1.0					HA11 0.9-1.0 PID = 0.9 ppm	No odours, stains or ACM noted. Natural Sand Encountered
		1.00			Test Pit HA11 terminated at 1m		
	1.5						
	2.0						
	2.5						

TEST PIT JBSG TEST PIT - 2017.GPJ GINT STD AUSTRALIA.GDT 5/21/20

HA12

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 7/4/2020
Logged By: Nicholas Maricic
Contractor: JBS&G
Total Hole Depth (mbgs): 0.6
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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
Hand Auger				Fill	Fill - SAND - Grey, Heterogeneous, Moist, Medium Density, Fine - Medium Grained with inclusions of Bricks, ACM, Metal, Tennis Ball, Trace Gravels and Rootlets	HA12 0.0-0.1 PID = 1.8 ppm	No odours or stains noted. ACM Fragmented Identified (Frag_02) at HA12 0.0-0.1
		0.20		SW	SAND - Grey, Heterogeneous, Moist, Medium Density, Fine - Medium Grained	HA12 0.2-0.3 PID = 1.4 ppm	No odours, stains or ACM noted.
	0.5						
		0.60			Test Pit HA12 terminated at 0.6m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

TP1

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 2
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - SAND - Brown, Heterogeneous, Damp, Coarse Gravels with inclusions of Gravels, Glass, Rootlets and Grass	TP1 0.0-0.1	No odours, stains or ACM noted.
	1.0	0.80		SW	SAND - Dark Brown, Heterogeneous, Damp, Coarse Gravels with inclusions of Black Sand and Sandstone Cobbles	TP1 0.5-1.0	No odours, stains or ACM noted.
	1.5					TP1 1.0-1.5	No odours, stains or ACM noted.
	2.0					TP1 1.5-2.0	No odours, stains or ACM noted.
	2.5	2.00			Test Pit TP1 terminated at 2m		

TP2

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 2
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5	0.50		Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Medium Density, Coarse Gravels with inclusions of Grass, Rootlets and White Clay	TP2 0.0-0.1	No odours, stains or ACM noted.
		0.50		Fill	Fill - SAND - Yellow, Homogeneous, Damp, Loose, Medium Density, Coarse Gravels		
	1.0	0.70		Fill	Fill - SAND - Brown - Orange, Homogeneous, Damp, Loose, Medium Density, Coarse Gravels with Potential Charcoal and Roots	TP2 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.30		SC	Clayey SAND - Grey, Homogeneous, Damp, Soft, High Plasticity	TP2 1.0-1.5	No odours, stains or ACM noted.
	2.0					TP2 1.5-2.0	No odours, stains or ACM noted.
		2.00			Test Pit TP2 terminated at 2m		
	2.5						

TP3

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 2
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - Silty SAND - Brown, Heterogneous, Damp, Loose, Medium Density, Fine Grained with inclusions of Gravels, Rootlets, Grass, Slate and Glass	TP3 0.0-0.1	No odours, stains or ACM noted.
	1.0					TP3 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.00		Fill	Fill - SAND - Yellow, Homogeneous, Damp, Loose, Medium Density with inclusions of Pink Sandstone Gravels	TP3 1.0-1.5	No odours, stains or ACM noted.
	2.0	1.50		Fill	Fill - SAND - Grey, Heterogeneous, Damp, Loose, Medium - Coarse Gravels with inclusions of Slate and Glass	TP3 1.5-2.0	No odours, stains or ACM noted.
	2.5	2.00			Test Pit TP3 terminated at 2m		

TP4

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 2
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Medium Gravels with inclusions of Rootlets, Grass, Gravels, Pebbels, PVC Pipe Frag	TP4 0.0-0.1	No odours, stains or ACM noted. QA/QC 20200421_1
	1.0	0.80		SW	SAND - Grey - Black, Homogeneous, Damp, Loose, Coarse Gravels	TP4 0.5-1.0	No odours, stains or ACM noted.
	1.5					TP4 1.0-1.5	No odours, stains or ACM noted.
	2.0					TP4 1.5-2.0	No odours, stains or ACM noted.
	2.5	2.00			Test Pit TP4 terminated at 2m		

TP5

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 1.5
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Medium - Coarse Gravels with inclusions of Rootlets and Grass	TP5 0.0-0.1	No odours, stains or ACM noted.
	1.0	0.60		SW	SAND - Yellow - Orange, Homogeneous, Damp, Loose, Medium Density, Coarse Gravels	TP5 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.00		SC	Clayey SAND - White - Grey - Orange, Homogeneous, Damp, Soft, Medium Plasticity, Coarse Gravels with inclusions of Red Sandstone Rock	TP5 1.0-1.5	No odours, stains or ACM noted.
	2.0	1.50			Test Pit TP5 terminated at 1.5m		Refusal on Rock
	2.5						

TP6

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 2
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Medium - Coarse Gravels with inclusions of Roots, Rootlets, Grass and Gravels	TP6 0.0-0.1	No odours, stains or ACM noted.
		0.60		Fill	Fill - SAND - Grey, Heterogeneous, Damp, Loose, Coarse Gravels with inclusions of Plastic Pipe (With depth, colour becomes lighter and matrix is homogeneous)	TP6 0.5-1.0	No odours, stains or ACM noted.
	1.0						
						TP6 1.0-1.5	No odours, stains or ACM noted. QA/QC 20200421_2
	1.5						
						TP6 1.5-2.0	No odours, stains or ACM noted.
	2.0						
		2.00			Test Pit TP6 terminated at 2m		Test Pit Collapsed
	2.5						

TP7

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.7
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Coarse Gravels with inclusions of Gravels, Rootlets and Grass	TP7 0.0-0.1	No odours, stains or ACM noted.
		0.60		SW	SAND - Orange, Homogeneous, Damp, Medium Gravels	TP7 0.6-0.7	No odours, stains or ACM noted.
		0.70			Test Pit TP7 terminated at 0.7m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

TP8

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/21/2020
Logged By: Lillian Beevors
Contractor: Ken Coles
Total Hole Depth (mbgs): 0.6
Pit Dimension (m3):

Eastings (GDA 94):
Northings (GDA 94):
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	0.5			Fill	Fill - Silty SAND - Brown - Grey, Heterogeneous, Damp, Loose, Medium Density, Coarse Gravels with inclusions of Grass and Rootlets	TP8 0.0-0.1	No odours, stains or ACM noted.
		0.50		SW	SAND - Yellow - Orange - Brown, Homogeneous, Damp, Medium Plasticty, Medium - Coarse Gravels	TP8 0.5-0.6	No odours, stains or ACM noted.
		0.60			Test Pit TP8 terminated at 0.6m		Refusal on Sandstone
	1.0						
	1.5						
	2.0						
	2.5						

BH03

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 09-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 3.2
Bore Diameter (mm): 130

Eastings (GDA 94): 340237
Northings (GDA 94): 6251473
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger	0			Fill	Brown silty sand. Damp, loose, low plasticity and soft. Medium grained and heterogeneous with inclusions of grass.	BH03 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
						BH03 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
		0.40		SW	Yellow/grey sand. Damp, non-plastic, medium grained and heterogeneous.		
	1					BH03 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
		1.40		SC	Brown clayey sand. Damp, low plasticity, soft and medium dense. heterogeneous and medium grained.	BH03 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
	2						
		2.00		SC	Brown/yellow clayey sand. Damp, medium grained, low plasticity, soft and medium dense.	BH03 2.0-2.1 PID = 0 ppm	No asbestos, odours or staining.
						BH03 2.5-2.6 PID = 0 ppm	No asbestos, odours or staining.
		2.70		SANDSTONE	Rock - Sandstone, dry.		
	3					BH03 3.0-3.1 PID = 0 ppm	No asbestos, odours or staining.
		3.20			Borehole BH03 terminated at 3.2m		End of environmental screen.
	4						
	5						
	6						

BH04

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 3
Bore Diameter (mm): 130

Eastings (GDA 94): 340249
Northings (GDA 94): 6251450
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger				Fill	Brown silty sand. Dry, loose, low plasticity and soft. Inclusions of grass.	BH04 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
						BH04 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
		0.70		Fill	Brown/grey sand. Dry/damp, medium grained, soft and heterogeneous.		
	1					BH04 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
		1.30		SC	Yellow clayey sand. Firm, damp, soft and medium plasticity. heterogeneous and medium grained.		
						BH04 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
	2	1.90		SANDSTONE	Sandstone - orange/red.		
	3	3.00			Borehole BH04 terminated at 3m		Refusal on sandstone.
	4						
	5						
	6						

BH06

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 4
Bore Diameter (mm): 130

Eastings (GDA 94): 340204
Northings (GDA 94): 6251459
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger				Fill	Brown silty sand. Dry, loose and soft. Slightly sandy.	BH06 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
		0.30		Fill	Grey silty sand. Coarse, damp, loose and heterogeneous.	BH06 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
	1						
		1.50		Fill	Dark grey/brown sand. Damp, loose and heterogeneous. Low plasticity.	BH06 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
	2					BH06 2.0-2.1 PID = 0 ppm	No asbestos, odours or staining.
						BH06 2.5-2.6 PID = 0 ppm	No asbestos, odours or staining.
	3					BH06 3.0-3.1 PID = 0 ppm	No asbestos, odours or staining.
		3.50		SW	Yellow/brown sand. Coarse grained, wet and heterogeneous.		
	4						End of environmental screen. Refusal on bedrock.
		4.00			Borehole BH06 terminated at 4m		
	5						
	6						

BH07

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 09-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 4.2
Bore Diameter (mm): 130

Eastings (GDA 94): 340227
Northings (GDA 94): 6251463
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger				Fill	Brown silty sand. Damp, loose, medium grained, soft and heterogeneous. Inclusions of grass.	BH07 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
						BH07 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
	1					BH07 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
						BH07 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
		1.80		Fill	Yellow/brown sand. Dry/damp, loose and medium grained, heterogeneous.		
	2					BH07 2.0-2.1 PID = 0 ppm	No asbestos, odours or staining.
						BH07 2.5-2.6 PID = 0 ppm	No asbestos, odours or staining.
	3					BH07 3.0-3.1 PID = 0 ppm	No asbestos, odours or staining.
	4	3.90		SM	Brown silty sand. Wet, non plastic, loose. heterogeneous and medium grained.	BH07 4.0-4.1 PID = 0 ppm	No asbestos, odours or staining.
		4.20			Borehole BH07 terminated at 4.2m		Refusal on bedrock.
	5						
	6						

BH08

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 5.2
Bore Diameter (mm): 130

Eastings (GDA 94): 340212
Northings (GDA 94): 6251447
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples / Tests / Remarks	Additional Observations
Solid Flight Auger	0			Fill	Light brown silty sand. Dry, loose, low plasticity and heterogeneous. Inclusions of grass.	BH08 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
						BH08 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
		0.50		Fill	Grey/brown sand. Dry/damp, medium grained and heterogeneous. Slightly silty.		
	1					BH08 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
						BH08 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
	2	2.00		Fill	Yellow/brown sand. Dry, firm, coarse grained and heterogeneous.	BH08 2.0-2.1 PID = 0 ppm	No asbestos, odours or staining.
						BH08 2.5-2.6 PID = 0 ppm	No asbestos, odours or staining.
	3					BH08 3.0-3.1 PID = 0 ppm	No asbestos, odours or staining.
		3.50		Fill	Brown silty sand. Saturated, loose, heterogeneous and coarse grained.	BH08 3.5-3.6 PID = 0 ppm	No asbestos, odours or staining. Water observed.
	4					BH08 4.0-4.1 PID = 0 ppm	No asbestos, odours or staining.
						BH08 4.5-4.6 PID = 0 ppm	No asbestos, odours or staining.
	5	5.20			Borehole BH08 terminated at 5.2m		Refusal on bedrock.
	6						

BH09

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 08-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 4.1
Bore Diameter (mm): 130

Eastings (GDA 94): 340232
Northings (GDA 94): 6251434
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger				Fill	Silty sand. Dry, loose, soft, low plasticity with inclusions of grass.	BH09 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
						BH09 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
		0.40		Fill	Brown/yellow sand. Dry, coarse grained and loose.		
	1					BH09 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
						BH09 1.5-1.6 PID = 0 ppm	No asbestos, odours or staining.
	2					BH09 2.0-2.1 PID = 0 ppm	No asbestos, odours or staining.
		2.60		Fill	Grey sand. Dry/damp, medium grained and loose.		
	3					BH09 3.0-3.1 PID = 0 ppm	No asbestos, odours or staining.
		3.80		SM	Yellow/brown silty sand. Stiff, with inclusion of sandstone gravels.		
	4					BH09 4.0-4.1 PID = 0 ppm	No asbestos, odours or staining. Refusal on bedrock.
		4.10			Borehole BH09 terminated at 4.1m		
	5						
	6						

BH10

Project Number: 55769
Client: Pells Sullivan Meynink
Project Name: Kambala Material Characterisation
Site Address: 794 New South Head Road, New South Wales

Date: 09-Jan-19
Logged By: J Cranson
Contractor: BG Dilling
Total Hole Depth (mbgs): 1.3
Bore Diameter (mm): 130

Eastings (GDA 94): 340226
Northings (GDA 94): 6251481
Zone/Area/Permit#:
Reference Level: AHD
Elevation (m):

Method	Depth (mbgs)	Contact (mbgs)	Graphic Log	Lithological Class	Lithological Description	Samples Tests Remarks	Additional Observations
Solid Flight Auger				Fill	Brown silty sand. Damp, loose and soft. Medium grained and heterogeneous with inclusions of grass.	BH10 0.0-0.1 PID = 0 ppm	No asbestos, odours or staining.
		0.30		Fill	Grey/brown sand. heterogeneous and medium grained. Slightly silty.	BH10 0.3-0.4 PID = 0 ppm	No asbestos, odours or staining.
	1						
		1.00		Fill	Red/brown sand. heterogeneous, medium grained and low plasticity.	BH10 1.0-1.1 PID = 0 ppm	No asbestos, odours or staining.
		1.30			Borehole BH10 terminated at 1.3m		Auger TC bit Refusal.
	2						
	3						
	4						
	5						
	6						

BH11

Project Number: 58081
Client: **Kambla School c/-** CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 1.7
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube				Fill	Fill - SAND - Brown, Heterogeneous, Damp, Loose, Medium Density, Medium Gravels with inclusions of Grass and Rootlets	BH11 0.0-0.1	No odours, stains or ACM noted.
		0.20		Fill	Fill - Clayey Gravelly SAND - Light - Medium Brown - Black, Heterogeneous, Damp, Hard, Medium Density with inclusions of Gravels		
	0.5					BH11 0.5-1.0	No odours, stains or ACM noted.
	1.0						
		1.00		Fill	Fill - Gravelly SAND - Brown - Orange, Heterogeneous, Damp, Loose, Medium Density with inclusions of Gravels	BH11 1.0-1.5	No odours, stains or ACM noted.
	1.5						
		1.60		SC	Clayey SAND - Orange - Brown, Homogeneous, Soft, Dry - Damp		
		1.70			Borehole BH11 terminated at 1.7m		Natural/Refusal Encountered
	2.0						
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						
	5.0						

BH12

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 4.5
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube	0.5			Fill	Fill - SAND - Brown - Grey, Damp, Loose, Medium Density with inclusions of Grass and Rootlets	BH12 0.0-0.1	No odours, stains or ACM noted.
	1.0	0.70		Fill	Fill - Clayey SAND - Dark Brown, Heterogeneous, Damp, Medium Plasticity	BH12 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.00		Fill	Fill - SAND - Brown - Grey, Damp, Loose, Medium Density with inclusions of Gravels	BH12 1.0-1.5	No odours, stains or ACM noted.
	2.0	1.70		Fill	Fill - Clayey SAND - Grey - Black, Heterogeneous, Damp, Loose, Medium Gravels with inclusions of Gravels		
	2.5						
	3.0					BH12 2.5-3.0	No odours, stains or ACM noted. No odours, stains or ACM noted.
	3.5					BH12 3.0-3.5	No odours, stains or ACM noted.
	4.0						
	4.5	4.00		Fill	Fill - Clayey SAND - Dark Brown - Black, Heterogeneous, Wet, Loose, Medium Gravels	BH12 4.0-4.5	No odours, stains or ACM noted.
	5.0	4.50			Borehole BH12 terminated at 4.5m		Refusal on Sandstone

BH13

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 1.8
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube	0.5			Fill	Fill - SAND, Grey - Brown, Heterogeneous, Damp, Loose, Medium Density with inclusions of Gravels, Grass and Rootlets	BH13 0.0-0.1	No odours, stains or ACM noted.
	1.0	0.50		Fill	Fill - Clayey SAND - Brown, Heterogeneous, Damp, Loose, Medium Density with inclusions of increased Gravels, Grass and Rootlets	BH13 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.20		Fill	Fill - SAND, Grey - Brown, Heterogeneous, Damp, Loose, Medium Density with inclusions of Gravels, Grass and Rootlets	BH13 1.0-1.5	No odours, stains or ACM noted.
		1.70		SC	Clayey SAND - Red - Orange - Brown, Homogeneous, Dry - Damp, Soft		
	2.0	1.80			Borehole BH13 terminated at 1.8m		Refusal Encountered
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						
	5.0						

BH14

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 1.4
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube	0.5			Fill	Fill - SAND - Brown - Black, Heterogeneous, Damp, Loose, Medium Plasticity, Fine Gravels with inclusions of Plastic	BH14 0.0-0.1	No odours, stains or ACM noted.
	1.0	0.60		Fill	Fill - SAND - Brown - Orange, Heterogeneous, Wet, Loose, Medium Plasticity, Fine Gravels with inclusions of Gravels	BH14 0.5-1.0	No odours, stains or ACM noted.
		1.20		SC	Clayey SAND - Grey - Red - Orange, Homogeneous, Dry, Loose, Hard	BH14 1.4-1.4	
		1.30		SW	SAND - Red - Brown, Homogeneous, Damp, Loose		No odours, stains or ACM noted. Natural/Refusal Encountered
	1.5	1.40			Borehole BH14 terminated at 1.4m		
	2.0						
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						
	5.0						

BH15

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 2.1
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube	0.5			Fill	Fill - SAND - Brown - Black, Heterogeneous, Damp, Loose, Medium Density, Coarse Gravels with inclusions of Grass and Rootlets	BH15 0.0-0.1	No odours, stains or ACM noted.
	1.0					BH15 0.5-1.0	No odours, stains or ACM noted.
		1.20		SC	Clayey SAND - Orange - Grey, Homogeneous, Damp - Wet, Loose, High Plasticity, Medium Density, Coarse Gravels		
	1.5	1.30		SW	SAND - Light Brown - Brown, Soft, Loose	BH15 1.5-2.0	No odours, stains or ACM noted.
	2.0						
		2.10			Borehole BH15 terminated at 2.1m		Natural/Refusal Encountered
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						
	5.0						

BH16

Project Number: 58081
Client: Kambala School c/- CTPG
Project Name: Kambala School ESA
Site Address: Rose Bay

Date: 4/20/2020
Logged By: Lillian Beevors
Contractor: Terratest
Total Hole Depth (mbgs): 1.6
Bore Diameter (mm):

Eastings (GDA 94):
Northings (GDA 94):
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
Push Tube	0.5			Fill	Fill - SAND - Brown - Grey - Black, Heterogeneous, Damp, loose, Medium Density with inclusions of Gravels, Grass and Rootlets	BH16 0.0-0.1	No odours, stains or ACM noted.
	1.0					BH16 0.5-1.0	No odours, stains or ACM noted.
	1.5	1.40		SC	Clayey SAND - Orange - Light Brown, Homogeneous, Damp, Loose, Non-Plastic, Soft		
	2.0	1.60			Borehole BH16 terminated at 1.6m		Refusal on Rock
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						
	5.0						

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 5/21/20

Appendix B Calibration Certificates

Field Equipment Calibration and Decontamination

PROJECT NAME:	KAMBALA	**PROJECT NO:**	55769
FIELD DATES:	8.01.2019	**FIELD STAFF:**	J.C

CALIBRATION SUMMARY	
EQUIPMENT:	PID / DECON 90
CALIBRATION STANDARD:	ISOBUTYLENE 100 PPM

DATE	TIME	READING (ppm_v)	COMMENTS
8.01.19		0 PPM	Cal successful
		100 PPM	Cal successful

DECONTAMINATION SUMMARY

EQUIPMENT: Handauger - washed + Decontaminated inbetween each sample location.

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

WERE ANY ADDITIONAL DECONTAMINATION MEASURES REQUIRED? PROVIDE DETAILS.

A fresh pair of nitrile gloves were worn for each sample collected.

Appendix C Quality Assurance / Quality Control

The QA/QC results for soil samples collected at the site are summarised in **Table C1** and discussed in **Section C1** below. Laboratory reports are included in **Appendix C**.

Table C1 Summary of Quality Assurance / Quality Control Program

Data Quality Indicator	Frequency	Results	DQI met?
Precision			
Soil Blind duplicates (intra laboratory)	>1 / 16 samples	0-187 % RPD (soil chemical analysis) All primary and duplicate samples analyzing asbestos were in agreement. Intra laboratory samples were analysed at a rate of 1 in 16 samples for chemical analysis.	Partial[1] Yes Yes
Soil Blind triplicates (inter laboratory)	>1 / 16 samples	0-187 % RPD (soil chemical analysis) The primary and duplicate samples analyzing asbestos were in agreement. Intra laboratory samples were analysed at a rate of 1 in 16 samples	Partial[1] Yes Yes
Laboratory Duplicates	>1/lab batch	0-95% RPD	Partial[1]
Accuracy			
Surrogate spikes	All organic Analysis	50-143 % Recovery	Partial[1]
Laboratory Control Samples	>1/lab batch	70-129 % Recovery	Yes
Matrix spikes	>1/lab batch	70-130 % Recovery	Yes
Representativeness			
Sampling appropriate for media and analytes	All media/Analytes	All sampling conducted in accordance with JBS&G procedures	Yes
Laboratory blanks	>1/lab batch	<LOR	Yes
Samples extracted and analysed within holding times.	N/A	All samples were extracted and analysed within holding times.	Yes
Trip spikes	1/lab batch	74-110 % Recovery	Yes
Trip blanks	1/lab batch	<LOR	Yes
Rinsate blank	1/sampling event	<LOR when reusable equipment was used	Yes
Comparability			
Standard operating procedures used for sample collection & handling	All samples	Field staff used same standard operating procedures throughout works	Yes
Standard analytical methods used	All samples	Standard analytical methods in accordance with JBS&G procedures	Yes
Consistent field conditions, sampling staff and laboratory analysis	All samples	Sampling was conducted by the same field staff members using standard operating procedures in the same conditions throughout the works. The laboratory remained consistent throughout the investigation.	Yes
Limits of reporting appropriate and consistent	All samples	Limits of reporting were consistent and appropriate.	Yes
Completeness			
Soil description & COCs completed	All samples	All bore testpit logs and COCs were completed appropriately.	Yes
Appropriate documentation	All samples	All appropriate field documentation is included in the Appendices.	Yes
Satisfactory frequency/result for QA/QC samples	All samples	The QC results are considered adequate for the purposes of the investigation.	Yes
Data from critical samples is considered valid	All samples	Data from critical samples is considered valid.	Yes
Sensitivity			
Analytical methods and limits of recovery appropriate for media and the adopted site assessment criteria	All samples	Appropriate laboratory analysis methods and detection limits were considered to have been achieved during the field and laboratory phases of the investigation	Yes

C1 QA/QC Discussion

Precision

Blind (intra-laboratory) Duplicates

Soil field split (inter-laboratory) duplicates were analysed at a rate of 1 per 16 primary samples which is within the required 1/20 DQI frequency (for split duplicates).

All field Split duplicates had relative percentage differences (RPDs) within the acceptable range of less than 50% with the following exceptions:

- TRH C15-C28, TRH C29-C36, TRHC16-C34, TRHC10-C40, Xylene Total. Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(a)pyrene TEQ, Benzo(b,j)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-c,d)pyrene, Phenanthrene, PAHs (Total) and Pyrene in duplicate pair HA01_0-0.1 and QC01 with RPDs ranging between 50 and 187%; and
- Arsenic, Zinc, TRH C15-C28, TRH C29-C36, TRHC16-C34, TRHC10-C40, Benz(a)anthracene, Benzo(a)pyrene, Benzo(a)pyrene TEQ, Benzo(b,j)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene and PAHs (Total) in duplicate pair HA06_0-0.1 and QA20200407-1 with RPDs ranging between 50 and 134%;

The high RPDs are attributed to the heterogeneity of the material both sampled from mixed soils within the garden embankment observed to include fertilizer and other matter mixed into surface soils.

Split (inter-laboratory) Duplicates

Soil field blind (intra-laboratory) duplicates were analysed at a rate of 1 per 16 primary samples which is within the required 1/20 DQI frequency.

Field blind duplicates had relative percentage differences (RPDs) within the acceptable range of less than 50% with the following exceptions:

- TRH C29-C36, TRHC16-C34, TRHC34-C40, TRHC10-C40, Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(a)pyrene TEQ, Benzo(b,j)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-c,d)pyrene, Phenanthrene and Pyrene in triplicate pair HA01_0-0.1 and QC01 with RPDs ranging between 65 and 191%; and
- TRH C10-C36, TRH C29-C36, TRHC16-C34, Benz(a)anthracene, Benzo(a)pyrene, Benzo(a)pyrene TEQ, Chrysene, Fluoranthene and pyrene in triplicate pair HA06_0-0.1 and QA20200407-1 with RPDs ranging between 50 and 134%;

The high RPDs are attributed to the heterogeneity of the material both sampled from mixed soils within the garden embankment observed to include fertilizer and other matter mixed into surface soils.

Laboratory duplicates

Laboratory duplicates analysed were generally reported with RPDs within the acceptable range of less than 50% with the following exceptions:

- Benz(a)anthracene, B(a)P, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Chrysene, Pyrene, TRH C16-C34, TRH C15-C28 and TRH C29-C36 at location HA06 0-0.1 with RPDs ranging between 51 and 89%; and
- Arsenic and Chromium at TP5_0.5-1.0 with RPDs of 95 and 89% respectively

The elevated laboratory duplicate RPDs are associated with the heterogeneity of fill materials within the samples analysed. The RPDs of the majority of elevated concentrations are noted to pass Eurofins Environmental Testing's QC Acceptance Criteria.

Accuracy

Surrogate spikes

Surrogate spike recoveries were reported between 50% and 143%. All surrogate recoveries were within the NATA accredited laboratory acceptable ranges of 50-150%.

Laboratory Control Samples

Laboratory control samples were conducted for each laboratory batch submitted and were all within JBS&G's acceptance criteria of 70-130%.

Matrix Spikes

Matrix spike samples were conducted for each laboratory batch submitted and were all within JBS&G's acceptance criteria of 70-130%.

Representativeness

Sampling appropriate for media and analytes

The sampling methods were considered appropriate for soil media and the analytes targeted.

Laboratory Blanks

At least one laboratory blank was analysed for each analyte with each batch of samples. All levels of analytes in laboratory blanks were below detection limits.

Trip Spikes

Trip spike recoveries were between 74-110% and were all within the acceptable range.

Trip blanks

A trip blank was provided with each batch of samples. All levels of analytes in the trip blanks were below detection limits.

Rinsate Samples

Rinsate samples were collected on 7th April when handauger samples were collected using reusable tools. All rinsate sample results were reported below the laboratory LOR.

Holding times

All analyses have been extracted within holding times.

Comparability

Common and consistent JBS&G Field Personnel were used to collect samples throughout the project. Field works have been undertaken in accordance with JBS&G field operating procedures. All required field forms and sampling logs have been appropriately completed by sampling personnel.

Completeness

Documentation

All documentation was completed to the required standard. Chain of custody forms are provided with laboratory documentation included in **Appendix D**.

Frequency for QA/QC Samples

The frequency of QA/QC samples is considered to be sufficient and meets the project DQI's.

Sensitivity

Appropriate laboratory analysis methods and detection limits were provided by the primary and secondary laboratories used. Field screening and sampling methods were also considered appropriate.

Soil QA/QC Conclusions

The results of the field and laboratory QA/QC program indicates that the data obtained from this investigation generally met the predetermined DQIs or, where the DQIs were exceeded, did not indicate systematic sampling or analytical errors. As such the data is considered to be of adequate quality to be relied on for the purposes of assessing the environmental condition at the site.

ESDAT QA Checker
Project:58081
Filter: SDG in('716335','714933','714502','713049','635079','636837')

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

Holding Times
- Holding Time Errors (524)

Blanks
- Field Blanks
- Detects in Lab Blanks (0)
- SDG's without Storage Blanks (6)
- SDG's without Method Blanks (0)

Duplicates
- Field and Interlab Duplicates
- Lab Duplicates with high RPDs (12)
- Duplicate Samples with incorrect or missing Parent Samples (0)
- Samples at the same Location/Depth/Time not specified as duplicates (7)

Surrogates
- Surrogate Variation > 30% or outside lab LCL or UCL (49)

Lab Control Samples
- SDG's without a Laboratory Control Sample (0)
- Laboratory Control Samples, Error > 30% (0)

Certified and Standard Reference Materials
- Certified Reference Materials - Error > 10% (0)

Matrix Spikes
- SDG's without a Matrix Spike (0)
- Trip Spikes with invalid Control Sample (0)
- Less than 1 matrix spike in 20 samples (0)
- Matrix Spike Recoveries less than 70% or greater than 130% or outside lab LCL or UCL (0)
- Trip Spike Recoveries (70% - 130% is acceptable) (0)

Inorganic
- Na + CL > TDS (0)
- BOD > COD (0)
- BOD > COD (0)

Other
- Unit Conversion Problems (1)
- OriginalChemNames Requiring Validation (1)
- Samples with no Results (0)
- Samples associated with Wells which are not specified in the Well Table (94)
- Aborted Analysis (4)

INSERT TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

				Num Results	Holding Times (days)			Lab Control Samples			Method and Storage Blanks			Laboratory Duplicates			Surrogates			Matrix,Trip and Compound Spikes			Field,Rinsate and Trip Blanks			Field Duplicates		
Matrix_Type	Filter	Method_Type	ChemName	Range	Non QA (Normal + Composite)	Volatility Group	Sample to Extraction	Sample to Analysis	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Recovery %	Num Reported	Acceptable	Range	Num Reported	Acceptable	Max RPD > EQL x 1	Num Reported	Acceptable
SOIL	Asbestos	Asbestos	ACM - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		AF - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Approx. Sample Mass		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Asbestos from ACM in Soil		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Asbestos from FA & AF in Soil		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Asbestos Reported Result		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
soil	Asbestos		Asbestos Sample Dimensions		2	SVOC	2	10	Y		0			0			0	N		0			0			0			0	N
SOIL	Asbestos		FA - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass ACM		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass AF		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass Asbestos in ACM		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass Asbestos in AF		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass Asbestos in FA		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass Asbestos in FA & AF		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Mass FA		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Organic Fibres - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Respirable Fibres - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos		Synthetic Fibres - Comment		37	Other	0 to 7	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Asbestos																													
SOIL	ASLP	ASLP	Leachate Fluid		2	other	15	20	Y		0			0			0	N		0			0			0			0	N
SOIL	ASLP		pH (Leachate fluid)	0.1 PH UNITS	2	SVOC	15	20	N		0			0			0	N		0			0			0			0	N
SOIL	ASLP		pH (TCLP - initial)	0.1 ph Units	2	other	15	20	Y		0			0			0	N		0			0			0			0	N
SOIL	ASLP		pH (TCLP - off)	0.1 ph Units	2	other	15	20	Y		0			0			0	N		0			0			0			0	N
SOIL	ASLP																													
SOIL	Heavy Metal	Heavy Metal	Arsenic (Total)	2 mg/kg	50	Other	6 to 11	7 to 15	Y	90 to 108	4	Y	ND	4	Y	95	8	N		0		94 to 118	5	Y		0		48	3	N
SOIL	Heavy Metal		Cadmium	0.4 mg/kg	50	Other	6 to 11	7 to 15	Y	90 to 110	4	Y	ND	4	Y		8	Y		0		86 to 113	5	Y		0			3	Y
SOIL	Heavy Metal		Cation Exchange Capacity	0.05 meq/100g	2	Other	7 to 15	7 to 15	Y		0		ND	2	Y		0	N		0			0			0			0	N
SOIL	Heavy Metal		Chromium (Total)	5 mg/kg	50	Other	6 to 11	7 to 15	Y	83 to 109	4	Y	ND	4	Y	89	8	N		0		86 to 119	5	Y		0		22	3	Y
SOIL	Heavy Metal		Copper	5 mg/kg	50	Other	6 to 11	7 to 15	Y	85 to 106	4	Y	ND	4	Y	22	8	Y		0		81 to 125	5	Y		0		33	3	N
SOIL	Heavy Metal		Lead	5 mg/kg	53	Other	6 to 15	7 to 21	Y	91 to 107	5	Y	ND	6	Y	59	9	N		0		87 to 117	7	Y		0		27	3	Y
SOIL	Heavy Metal		Mercury (Inorganic)	0.1 mg/kg	50	Other	6 to 11	7 to 15	Y	90 to 107	4	Y	ND	4	Y		8	Y		0		96 to 120	5	Y		0		0	3	Y
SOIL	Heavy Metal		Nickel	5 mg/kg	50	Other	6 to 11	7 to 15	Y	86 to 105	4	Y	ND	4	Y	31	8	Y		0		80 to 116	5	Y		0			3	Y
SOIL	Heavy Metal		Zinc	5 mg/kg	50	Other	6 to 11	7 to 15	Y	84 to 103	4	Y	ND	4	Y	24	8	Y		0		85 to 118	5	Y		0		50	3	N
SOIL	Heavy Metal																													
SOIL	Inorganic	Inorganic	% Clay	1 %	2	Other	6 to 14	7 to 15	Y	75 to 75	1	Y	ND	1	Y	0	1	Y		0			0			0			0	N
SOIL	Inorganic		% Moisture 103oC	1 %	56	Other	0 to 22	7 to 29	Y		0			0		10	6	Y		0			0			0		60	3	N
SOIL	Inorganic		EC 1:5 soil:water	10 µS/cm	2	Other	7 to 14	7 to 15	Y		0		ND	2	Y	20	2	Y		0			0			0			0	N
SOIL	Inorganic		pH 1:5 soil:water	0.1 ph Units	2	Other	6 to 11	7 to 15	Y		0			0		2	2	Y		0			0			0			0	N
SOIL	Inorganic																													
SOIL	OCP	OCP	4,4-DDE	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	98 to 108	3	Y	ND	3	Y		2	Y		0		86 to 96	3	Y		0			3	Y
SOIL	OCP		Aldrin	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	86 to 104	3	Y	ND	3	Y		2	Y		0		86 to 102	3	Y		0			3	Y
SOIL	OCP		Aldrin + Dieldrin (Sum of Total)	0.05 mg/kg	7	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	OCP		alpha-BHC	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	93 to 108	3	Y	ND	3	Y		2	Y		0		90 to 101	3	Y		0			3	Y
SOIL	OCP		beta-BHC	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	82 to 99	3	Y	ND	3	Y		2	Y		0		74 to 95	3	Y		0			3	Y
SOIL	OCP		Chlordane	0.1 mg/kg	7	SVOC	6 to 8	7 to 10	N	79 to 98	3	Y	ND	3	Y		2	Y		0		74 to 112	3	Y		0			3	Y
SOIL	OCP		DDD	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	88 to 103	3	Y	ND	3	Y		2	Y		0		72 to 119	3	Y		0			3	Y
SOIL	OCP		DDT	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	84 to 107	3	Y	ND	3	Y		2	Y		0		72 to 130	2	N		0			3	Y
SOIL	OCP		DDT+DDE+DDD (Sum of Total)	0.05 mg/kg	7	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	OCP		delta-BHC	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	95 to 117	3	Y	ND	3	Y		2	Y		0		96 to 107	3	Y		0			3	Y
SOIL	OCP		Dieldrin	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	98 to 111	3	Y	ND	3	Y		2	Y		0		71 to 112	3	Y		0			3	Y
SOIL	OCP		Endosulfan alpha	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	71 to 104	3	Y	ND	3	Y		2	Y		0		75 to 89	3	Y		0			3	Y
SOIL	OCP		Endosulfan beta	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	104 to 106	3	Y	ND	3	Y		2	Y		0		83 to 101	3	Y		0			3	Y
SOIL	OCP		Endosulfan sulphate	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	94 to 116	3	Y	ND	3	Y		2	Y		0		95 to 96	2	Y		0			3	Y
SOIL	OCP		Endrin	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	91 to 112	3	Y	ND	3	Y		2	Y		0		85 to 99	2	Y		0			3	Y
SOIL	OCP		Endrin aldehyde	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	87 to 124	3	Y	ND	3	Y		2	Y		0		70 to 105	3	N		0			3	Y
SOIL	OCP		Endrin ketone	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	81 to 91	3	Y	ND	3	Y		2	Y		0		72 to 78	3	Y		0			3	Y
SOIL	OCP		Heptachlor	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	99 to 110	3	Y	ND	3	Y		2	Y		0		90 to 119	2	Y		0			3	Y
SOIL	OCP		Heptachlor Epoxide	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	95 to 100	3	Y	ND	3	Y		2	Y		0		90 to 97	2	Y		0			3	Y
SOIL	OCP		Hexachlorobenzene	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	96 to 124	3	Y	ND	3	Y		2	Y		0		88 to 124	3	Y		0			3	Y
SOIL	OCP		Lindane	0.05 mg/kg	7	SVOC	6 to 8	7 to 10	N	79 to 98	3	Y	ND	3	Y		2	Y		0		75 to 94	3	Y		0			3	Y
SOIL	OCP		Methoxychlor	0.05 to 0.2 mg/kg	7	SVOC	6 to 8	7 to 10	N	98 to 117	3	Y	ND	3	Y		2	Y		0		79 to 122	2	Y		0			3	Y
SOIL	OCP		Organochlorine Pesticides EPAVic	0.1 mg/kg	7	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	OCP		Other Organochlorine Pesticides EPAVic	0.1 mg/kg	7	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	OCP		Surrogate Dibutylchlorendate		0	SVOC			Y		0			0			0	N	to 143 *2Not Determ	9	N		0			0			0	N
SOIL	OCP		Surrogate TCMX		0	SVOC			Y		0			0			0	N	80 to 137	10	N		0			0			0	N
SOIL	OCP		Toxaphene	1 mg/kg	7	SVOC	6 to 8	7 to 10	N	90 to 90	1	Y	ND	3	Y		1	Y		0			0			0			3	Y
SOIL	OCP																													
SOIL	Organic	Organic	>C10-C16 Fraction	50 mg/kg	41	SVOC	6 to 8	7 to 10	N	76 to 95	3	Y	ND	3	Y		3	Y		0		83 to 128	3	Y		0			3	Y
SOIL	Organic		>C10-C16 Fraction (SG)	50 mg/kg	3	SVOC	11 to 25	15 to 29	N	83 to 83	1	Y	ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		>C10-C16 less Naphthalene (F2)	50 mg/kg	41	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Organic		>C10-C40 Fraction (Total)	100 mg/kg	41	SVOC	6 to 8	7 to 10	N		0			0			0	N		0			0			0		90	3	N
SOIL	Organic		>C16-C34 Fraction	100 mg/kg	41	SVOC	6 to 8	7 to 10	N		0		ND	3	Y	61	3	N		0			0			0		108	3	N
SOIL	Organic		>C16-C34 Fraction (SG)	100 mg/kg	3	SVOC	11 to 25	15 to 29	N		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		>C34-C40 Fraction	100 mg/kg	41	SVOC	6 to 8	7 to 10	N		0		ND	3	Y	47	3	Y		0			0			0		42	3	N
SOIL	Organic		>C34-C40 Fraction (SG)	100 mg/kg	3	SVOC	11 to 25	15 to 29	N		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Acenaphthene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Acenaphthylene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Anthracene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Aroclor 1016		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1221		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1232		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1242		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1248		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1254		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Aroclor 1260		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Benz(a)anthracene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Benzo(a)pyrene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Benzo(b,j)fluoranthene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Benzo(g,h,i)perylene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Benzo(k)fluoranthene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		C10-C14 Fraction (SG)		0	SVOC			Y	87 to 87	1	Y	ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		C15-C28 Fraction (SG)		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		C29-C36 Fraction (SG)		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		C6-C10 Fraction	20 mg/kg	41	VOC	6 to 8	7 to 10	N	93 to 112	3	Y	ND	3	Y		4	Y		0		84 to 102	4	Y		0			3	Y
SOIL	Organic		C6-C10 less BTEX (F1)	20 mg/kg	41	VOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0			3	Y
SOIL	Organic		C6-C9 Fraction	20 mg/kg	41	VOC	6 to 8	7 to 10	N	96 to 107	3	Y	ND	3	Y		4	Y		0		80 to 99	4	Y		0			3	Y
SOIL	Organic		Chrysene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Dibenz(a,h)anthracene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Fluoranthene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Fluorene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Indeno(1,2,3-c,d)pyrene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N
SOIL	Organic		Naphthalene	0.5 mg/kg	41	VOC	6 to 8	7 to 10	N	119 to 124	3	Y	ND	3	Y		1	Y		0		86 to 114	4	Y		0			3	Y
SOIL	Organic		PCBs (Total)		0	SVOC			Y		0		ND	1	Y		0	N		0			0			0			0	N
SOIL	Organic		Phenanthrene		0	SVOC			Y		0			0		7	1	Y		0			0			0			0	N
SOIL	Organic		Pyrene		0	SVOC			Y		0			0			1	Y		0			0			0			0	N

INSERT TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

SOIL	Organic																													
SOIL	PAH	PAH	4-Terphenyl-d14		0	SVOC			Y		0				0			0	N	50 to 142	48	N			0			0			0	N
SOIL	PAH		Acenaphthene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	92 to 120	6	Y	ND	6	Y		5	Y		0		71 to 124	6	Y		0		160	3	N
SOIL	PAH		Acenaphthylene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	81 to 117	6	Y	ND	6	Y		5	Y		0		76 to 126	6	Y		0			3	Y
SOIL	PAH		Anthracene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	81 to 123	6	Y	ND	6	Y		5	Y		0		76 to 106	6	Y		0		187	3	N
SOIL	PAH		Benz(a)anthracene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	81 to 114	6	Y	ND	6	Y	51	5	N		0		78 to 109	6	Y		0		157	3	N
SOIL	PAH		Benzo(a)pyrene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	76 to 127	6	Y	ND	6	Y	89	5	N		0		76 to 108	6	Y		0		131	3	N
SOIL	PAH		Benzo(a)pyrene TEQ (lower bound)*	0.5 mg/kg	38	SVOC	0 to 14	7 to 21	N		0			0			0	N		0			0			0		137	3	N
SOIL	PAH		Benzo(a)pyrene TEQ (medium bound)*	0.5 mg/kg	38	SVOC	0 to 14	7 to 21	N		0			0			0	N		0			0			0		134	3	N
SOIL	PAH		Benzo(a)pyrene TEQ (upper bound)*	0.5 mg/kg	38	SVOC	0 to 14	7 to 21	N		0			0			0	N		0			0			0		132	3	N
SOIL	PAH		Benzo(b,j)fluoranthene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	79 to 129	6	Y	ND	6	Y	75	5	N		0		75 to 100	6	Y		0		131	3	N
SOIL	PAH		Benzo(g,h,i)perylene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	78 to 110	6	Y	ND	6	Y		5	Y		0		76 to 118	6	Y		0		100	3	N
SOIL	PAH		Benzo(k)fluoranthene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	80 to 120	6	Y	ND	6	Y	82	5	N		0		77 to 116	6	Y		0		142	3	N
SOIL	PAH		Chrysene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	102 to 121	6	Y	ND	6	Y	57	5	N		0		74 to 124	6	Y		0		156	3	N
SOIL	PAH		Dibenz(a,h)anthracene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	77 to 111	6	Y	ND	6	Y		5	Y		0		73 to 124	6	Y		0		105	3	N
SOIL	PAH		Fluoranthene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	76 to 118	6	Y	ND	6	Y	46	5	Y		0		71 to 112	6	Y		0		173	3	N
SOIL	PAH		Fluorene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	89 to 124	6	Y	ND	6	Y		5	Y		0		74 to 109	6	Y		0		144	3	N
SOIL	PAH		Indeno(1,2,3-c,d)pyrene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	78 to 113	6	Y	ND	6	Y		5	Y		0		75 to 101	6	Y		0		124	3	N
SOIL	PAH		Naphthalene	0.5 mg/kg	45	VOC	6 to 15	7 to 21	N	97 to 121	6	Y	ND	6	Y		5	Y		0		70 to 121	6	N		0			3	Y
SOIL	PAH		PAHs (Total)	0.5 mg/kg	45	SVOC	0 to 14	7 to 21	N		0			0			0	N		0			0			0		162	3	N
SOIL	PAH		Phenanthrene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	91 to 123	6	Y	ND	6	Y		5	Y		0		74 to 110	6	Y		0		187	3	N
SOIL	PAH		Pyrene	0.5 mg/kg	45	SVOC	6 to 15	7 to 21	N	85 to 122	6	Y	ND	6	Y	53	5	N		0		80 to 116	6	Y		0		167	3	N
SOIL	PAH		Surrogate 2-fluorobiphenyl		0	SVOC			Y		0			0			0	N	50 to 140	48	N			0			0			0	N
SOIL	PAH																													
SOIL	PCB	PCB	Aroclor 1016	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y	90 to 90	1	Y	ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1221	0.1 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1232	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1242	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1248	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1254	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		Aroclor 1260	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y	80 to 80	1	Y	ND	1	Y		1	Y		0			0			0			2	Y
SOIL	PCB		PCBs (Total)	0.1 to 0.5 mg/kg	4	SVOC	6 to 7	7 to 8	Y		0		ND	1	Y		0	N		0			0			0			2	Y
SOIL	PCB		Surrogate Dibutylchlorendate		0	SVOC			Y		0			0			0	N	104 to 104	1	Y			0			0			0	N
SOIL	PCB																													
SOIL	TCLP	TCLP	pH (Leachate fluid)	0.1 PH UNITS	3	SVOC	14	21	N		0			0			0	N		0			0			0			0	N
SOIL	TCLP		pH (TCLP - HCl addition)	0.1 ph Units	7	other	11 to 15	15 to 21	Y		0			0			0	N		0			0			0			0	N
SOIL	TCLP		pH (TCLP - initial)	0.1 ph Units	7	other	11 to 15	15 to 21	Y		0			0			0	N		0			0			0			0	N
SOIL	TCLP		pH (TCLP - off)	0.1 ph Units	7	other	11 to 15	15 to 21	Y		0			0			0	N		0			0			0			0	N
SOIL	TCLP																													
SOIL	TPH	TPH	C10 - C36 Fraction (Total) (SG)	100 mg/kg	3	SVOC	8 to 22	15 to 29	N		0			0			0	N		0			0			0			0	N
SOIL	TPH		C10-C14 Fraction (SG)	50 mg/kg	3	SVOC	11 to 25	15 to 29	N		0			0			0	N		0			0			0			0	N
SOIL	TPH		C10-C14 Fraction	20 mg/kg	41	SVOC	6 to 8	7 to 10	N	76 to 98	3	Y	ND	3	Y	26	3	Y		0		80 to 124	3	Y		0		40	3	N
SOIL	TPH		C10-C36 Fraction (Total)	50 mg/kg	41	SVOC	0 to 2	7 to 10	Y		0			0			0	N		0			0			0		101	3	N
SOIL	TPH		C15-C28 Fraction (SG)	100 mg/kg	3	SVOC	11 to 25	15 to 29	N		0			0			0	N		0			0			0			0	N
SOIL	TPH		C15-C28 Fraction	50 mg/kg	41	SVOC	6 to 8	7 to 10	N		0		ND	3	Y	63	3	N		0			0			0		135	3	N
SOIL	TPH		C29-C36 Fraction (SG)	100 mg/kg	3	SVOC	11 to 25	15 to 29	N		0			0			0	N		0			0			0			0	N
SOIL	TPH		C29-C36 Fraction	50 mg/kg	41	SVOC	6 to 8	7 to 10	N		0		ND	3	Y	63	3	N		0			0			0		57	3	N
SOIL	TPH																													
SOIL	Volatile	Volatile	Benzene	0.1 mg/kg	41	VOC	6 to 8	7 to 10	N	89 to 109	3	Y	ND	3	Y		4	Y		0		73 to 113	4	Y		0			3	Y
SOIL	Volatile		Ethylbenzene	0.1 mg/kg	41	VOC	6 to 8	7 to 10	N	110 to 120	3	Y	ND	3	Y	22	4	Y		0		89 to 118	4	Y		0			3	Y
SOIL	Volatile		Surrogate 4-BFB		0	VOC			Y		0			0			0	N	81 to 142	44	N			0			0			0	N
SOIL	Volatile		Toluene	0.1 mg/kg	41	VOC	6 to 8	7 to 10	N	106 to 109	3	Y	ND	3	Y		4	Y		0		84 to 114	4	Y		0			3	Y
SOIL	Volatile		Xylene (m & p)	0.2 mg/kg	41	VOC	6 to 8	7 to 10	N	111 to 125	3	Y	ND	3	Y	10	4	Y		0		92 to 122	4	Y		0		150	3	N
SOIL	Volatile		Xylene (o)	0.1 mg/kg	41	VOC	6 to 8	7 to 10	N	110 to 127	2	Y	ND	3	Y	9	4	Y		0		88 to 124	4	Y		0		91	3	N
SOIL	Volatile		Xylene (Total)	0.3 mg/kg	41	VOC	6 to 8	7 to 10	N	111 to 124	3	Y	ND	3	Y	12	4	Y		0		90 to 123	4	Y		0		111	3	N
SOIL	Volatile																													
WATER	Heavy Metal	Heavy Metal	Arsenic (Total)		0	Other	1 to 7	7 to 10	Y	92 to 93	2	Y	ND	2	Y	0	1	Y		0		101 to 101	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Cadmium		0	Other	1 to 7	7 to 10	Y	93 to 96	2	Y	ND	2	Y		1	Y		0		100 to 100	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Chromium (Total)		0	Other	1 to 7	7 to 10	Y	96 to 96	2	Y	ND	2	Y	0	1	Y		0		96 to 96	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Copper		0	Other	1 to 7	7 to 10	Y	96 to 97	2	Y	ND	2	Y	0	1	Y		0		95 to 95	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Lead		0	Other	1 to 7	7 to 10	Y	97 to 99	2	Y	ND	2	Y	0	1	Y		0		95 to 95	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Mercury (Inorganic)		0	Other	1 to 7	7 to 10	Y	96 to 105	2	Y	ND	2	Y		1	Y		0		101 to 101	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Nickel		0	Other	1 to 7	7 to 10	Y	95 to 96	2	Y	ND	2	Y	0	1	Y		0		95 to 95	1	Y	ND	2	Y		0	N
WATER	Heavy Metal		Zinc		0	Other	1 to 7	7 to 10	Y	95 to 96	2	Y	ND	2	Y	4	1	Y		0		96 to 96	1	Y	ND	2	Y		0	N
WATER	Heavy Metal																													
WATER	OCP	OCP	4,4-DDE		0	SVOC	1 to 7	7 to 10	Y	127 to 127	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Aldrin		0	SVOC	1 to 7	7 to 10	Y	119 to 119	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Aldrin + Dieldrin (Sum of Total)		0	SVOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	OCP		alpha-BHC		0	SVOC	1 to 7	7 to 10	Y	79 to 79	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		beta-BHC		0	SVOC	1 to 7	7 to 10	Y	99 to 99	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Chlordane		0	SVOC	1 to 7	7 to 10	Y	124 to 124	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		DDD		0	SVOC	1 to 7	7 to 10	Y	123 to 123	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		DDT		0	SVOC	1 to 7	7 to 10	Y	73 to 73	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		DDT+DDE+DDD (Sum of Total)		0	SVOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	OCP		delta-BHC		0	SVOC	1 to 7	7 to 10	Y	94 to 94	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Dieldrin		0	SVOC	1 to 7	7 to 10	Y	110 to 110	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endosulfan alpha		0	SVOC	1 to 7	7 to 10	Y	117 to 117	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endosulfan beta		0	SVOC	1 to 7	7 to 10	Y	101 to 101	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endosulfan sulphate		0	SVOC	1 to 7	7 to 10	Y	107 to 107	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endrin		0	SVOC	1 to 7	7 to 10	Y	107 to 107	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endrin aldehyde		0	SVOC	1 to 7	7 to 10	Y	72 to 72	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Endrin ketone		0	SVOC	1 to 7	7 to 10	Y	94 to 94	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Heptachlor		0	SVOC	1 to 7	7 to 10	Y	117 to 117	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Heptachlor Epoxide		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Hexachlorobenzene		0	SVOC	1 to 7	7 to 10	Y	97 to 97	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Lindane		0	SVOC	1 to 7	7 to 10	Y	92 to 92	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Methoxychlor		0	SVOC	1 to 7	7 to 10	Y	77 to 77	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP		Organochlorine Pesticides EPAVic		0	SVOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	OCP		Other Organochlorine Pesticides EPAVic		0	SVOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	OCP		Surrogate Dibutylchlorendate		0	SVOC			Y		0			0			0	N	72 to 138	2	N			0			0			0	N
WATER	OCP		Surrogate TCMX		0	SVOC			Y		0			0			0	N	to 64 *1Not Determi	2	N			0			0			0	N
WATER	OCP		Toxaphene		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	OCP																													
WATER	Organic	Organic	>C10-C16 Fraction		0	SVOC	1 to 7	7 to 10	Y	91 to 91	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	Organic		>C10-C16 less Naphthalene (F2)		0	SVOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	Organic		>C10-C40 Fraction (Total)		0	SVOC	1 to 7	7 to 10	Y		0			0			0	N		0			0		ND	2	Y		0	N
WATER	Organic		>C16-C34 Fraction		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	Organic		>C34-C40 Fraction		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	Organic		C6-C10 Fraction		0	VOC	1 to 7	7 to 10	Y	114 to 114	1	Y	ND	2	Y		1	Y		0		72 to 125	2	Y	ND	3	Y		0	N
WATER	Organic		C6-C10 less BTEX (F1)		0	VOC	1 to 2	7 to 10	Y		0			0			0	N		0			0		ND	3	Y		0	N
WATER	Organic		C6-C9 Fraction		0	VOC	1 to 7	7 to 10	Y	111 to 111	1	Y	ND	2	Y		1	Y		0		74 to 127	2	Y	ND	3	Y		0	N
WATER	Organic		Naphthalene		0	VOC	1 to 7	7 to 10	Y	99 to 99	1	Y	ND	2	Y		1	Y		0		100 to 105	2	Y	ND	3	Y		0	N
WATER	Organic																													
WATER	PAH	PAH	4-Terphenyl-d14		0	SVOC			Y		0			0			0	N	95 to 108	2	Y			0			0			0	N
WATER	PAH		Acenaphthene		0	SVOC	1 to 7	7 to 10	Y	84 to 84	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Acenaphthylene		0	SVOC	1 to 7	7 to 10	Y	95 to 95	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Anthracene		0	SVOC	1 to 7	7 to 10	Y	87 to 87	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Benz(a)anthracene		0	SVOC	1 to 7	7 to 10	Y	91 to 91	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Benzo(a)pyrene		0	SVOC	1 to 7	7 to 10	Y	90 to 90	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Benzo(b,j)fluoranthene		0	SVOC	1 to 7	7 to 10	Y	79 to 79	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Benzo(g,h,i)perylene		0	SVOC	1 to 7	7 to 10	Y	109 to 109	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N
WATER	PAH		Benzo(k)fluoranthene		0	SVOC	1 to 7	7 to 10	Y	85 to 85	1	Y	ND	1	Y		0	N		0			0		ND	2	Y		0	N

INSERT TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

WATER	PAH		Chrysene		0	SVOC	1 to 7	7 to 10	Y	88 to 88	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Dibenz(a,h)anthracene		0	SVOC	1 to 7	7 to 10	Y	83 to 83	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Fluoranthene		0	SVOC	1 to 7	7 to 10	Y	70 to 70	1	**N**	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Fluorene		0	SVOC	1 to 7	7 to 10	Y	74 to 74	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Indeno(1,2,3-c,d)pyrene		0	SVOC	1 to 7	7 to 10	Y	86 to 86	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Naphthalene		0	VOC	1 to 7	7 to 10	Y	76 to 76	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		PAHs (Total)		0	SVOC	1 to 2	7 to 10	Y		0			0			0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Phenanthrene		0	SVOC	1 to 7	7 to 10	Y	87 to 87	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Pyrene		0	SVOC	1 to 7	7 to 10	Y	72 to 72	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	PAH		Surrogate 2-fluorobiphenyl		0	SVOC			Y		0			0			0	**N**	80 to 87	2	Y		0			0			0	**N**
WATER	PAH																													
WATER	PCB	PCB	Aroclor 1016		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1221		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1232		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1242		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1248		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1254		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		Aroclor 1260		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB		PCBs (Total)		0	SVOC	1	7	Y		0			0			0	**N**		0			0		ND	1	Y		0	**N**
WATER	PCB																													
WATER	TPH	TPH	C10-C14 Fraction		0	SVOC	1 to 7	7 to 10	Y	94 to 94	1	Y	ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	TPH		C10-C36 Fraction (Total)		0	SVOC	1 to 2	7 to 10	Y		0			0			0	**N**		0			0		ND	2	Y		0	**N**
WATER	TPH		C15-C28 Fraction		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	TPH		C29-C36 Fraction		0	SVOC	1 to 7	7 to 10	Y		0		ND	1	Y		0	**N**		0			0		ND	2	Y		0	**N**
WATER	TPH																													
WATER	Volatile	Volatile	Benzene		0	VOC	1 to 7	7 to 10	Y	120 to 120	1	Y	ND	2	Y		1	Y		0		100 to 117	3	Y	ND	4	Y		0	**N**
WATER	Volatile		Ethylbenzene		0	VOC	1 to 7	7 to 10	Y	108 to 108	1	Y	ND	2	Y		1	Y		0		100 to 114	3	Y	ND	4	Y		0	**N**
WATER	Volatile		Surrogate 4-BFB		0	VOC			Y		0			0			0	**N**	52 to 125	6	**N**		0			0			0	**N**
WATER	Volatile		Toluene		0	VOC	1 to 7	7 to 10	Y	112 to 112	1	Y	ND	2	Y		1	Y		0		100 to 114	3	Y	ND	4	Y		0	**N**
WATER	Volatile		Xylene (m & p)		0	VOC	1 to 7	7 to 10	Y	105 to 105	1	Y	ND	2	Y		1	Y		0		95 to 112	3	Y	ND	4	Y		0	**N**
WATER	Volatile		Xylene (o)		0	VOC	1 to 7	7 to 10	Y	108 to 108	1	Y	ND	2	Y		1	Y		0		110 to 114	3	Y	ND	4	Y		0	**N**
WATER	Volatile		Xylene (Total)		0	VOC	1 to 7	7 to 10	Y	106 to 106	1	Y	ND	2	Y		1	Y		0		99 to 112	3	Y	ND	4	Y		0	**N**

INSERT TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

Field Duplicates (SOIL)
Filter: SDG in('716335','714933','714502','713049

	SDG	635079	635079		714933	714933		713049	713049		635079	ENVIROLAB 2019-01-10T00:00:00	
	Field ID	HA01_0-0.1	QC-01	RPD	TP4_0.0-0.1	QA20200421	RPD	HA06 0-0.1	QA20200407-1	RPD	HA01_0-0.1	QA-01	RPD
	Sampled Date/Time	08-01-19	08-01-19		21-04-20	21-04-20		07-04-20	07-04-20		08-01-19	08-01-19	
Method_Ty	ChemName	Units	EQL										
Heavy Meta	Arsenic (Total)	mg/kg	2 (Primary): 4 (Interlab)	2.3	2.2	4	8.2	8.7	6	**5.2**	**3.2**	**48**	2.3	<4.0	0
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium (Total)	mg/kg	5 (Primary): 1 (Interlab)	8.3	10.0	19	6.4	6.3	2	9.5	7.6	22	8.3	8.0	4
	Copper	mg/kg	5 (Primary): 1 (Interlab)	43.0	41.0	5	<5.0	<5.0	0	**43.0**	**60.0**	**33**	**43.0**	**59.0**	**31**
	Lead	mg/kg	5 (Primary): 1 (Interlab)	220.0	230.0	4	17.0	13.0	27	170.0	220.0	26	220.0	290.0	27
	Mercury (Inorganic)	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	0.1	0.1	0	<0.1	0.1	0
	Nickel	mg/kg	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	4.0	0
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	390.0	430.0	10	12.0	15.0	22	**240.0**	**400.0**	**50**	**390.0**	**550.0**	**34**
Organic	C6-C9 Fraction	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0
TPH	C10-C14 Fraction	mg/kg	20 (Primary): 50 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	**30.0**	**<20.0**	**40**	<20.0	<50.0	0
	C15-C28 Fraction	mg/kg	50 (Primary): 100 (Interlab	**1300.0**	**250.0**	**135**	<50.0	<50.0	0	**650.0**	**360.0**	**57**	**1300.0**	**170.0**	**154**
	C29-C36 Fraction	mg/kg	50 (Primary): 100 (Interlab	**670.0**	**400.0**	**50**	<50.0	<50.0	0	**540.0**	**300.0**	**57**	**670.0**	**340.0**	**65**
	C10-C36 Fraction (Total)	mg/kg	50	**1970.0**	**650.0**	**101**	<50.0	<50.0	0	**1220.0**	**660.0**	**60**	1970.0		
Organic	>C10-C16 Fraction	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	>C16-C34 Fraction	mg/kg	100	**1700.0**	**510.0**	**108**	<100.0	<100.0	0	**1000.0**	**570.0**	**55**	**1700.0**	**420.0**	**121**
	>C34-C40 Fraction	mg/kg	100	**450.0**	**310.0**	**37**	<100.0	<100.0	0	**290.0**	**190.0**	**42**	**450.0**	**220.0**	**69**
	>C10-C40 Fraction (Total)	mg/kg	100 (Primary): 50 (Interlab	**2150.0**	**820.0**	**90**	<100.0	<100.0	0	**1290.0**	**760.0**	**52**	**2150.0**	**640.0**	**108**
	>C10-C16 less Naphthalene (F2)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C6-C10 Fraction	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0
	C6-C10 less BTEX (F1)	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<25.0	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1.0 - 0.1	0
PAH	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<5.0	<5.0	0	<0.5	<1.0 - 0.1	0
Volatile	Benzene	mg/kg	0.1 (Primary): 0.2 (Interlab	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.2	0
	Ethylbenzene	mg/kg	0.1 (Primary): 1 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<1.0	0
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interlab	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene (o)	mg/kg	0.1 (Primary): 1 (Interlab)	**0.8**	**0.3**	**91**	<0.1	<0.1	0	<0.1	<0.1	0	0.8	<1.0	0
	Xylene (m & p)	mg/kg	0.2 (Primary): 2 (Interlab)	**1.4**	**0.2**	**150**	<0.2	<0.2	0	<0.2	<0.2	0	1.4	<2.0	0
	Xylene (Total)	mg/kg	0.3 (Primary): 3 (Interlab)				<0.3	<0.3	0	<0.3	<0.3	0			
	Xylene (Total)	mg/kg	0.3 (Primary): 1 (Interlab)	**2.1**	**0.6**	**111**							**2.1**	**<1.0**	**71**
PAH	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab	**4.5**	**<0.5**	**160**	<0.5	<0.5	0	<5.0	<5.0	0	**4.5**	**0.1**	**191**
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0	<5.0	<5.0	0	<0.5	0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	**15.0**	**<0.5**	**187**	<0.5	<0.5	0	<5.0	<5.0	0	**15.0**	**0.7**	**182**
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	**26.0**	**3.1**	**157**	<0.5	<0.5	0	**8.4**	**<5.0**	**51**	**26.0**	**3.5**	**153**
	Benzo(a)pyrene	mg/kg	0.5 (Primary): 0.05 (Interla	**23.0**	**4.8**	**131**	<0.5	<0.5	0	**13.0**	**<5.0**	**89**	**23.0**	**4.8**	**131**
	Benzo(a)pyrene TEQ (lower bound)*	mg/kg	0.5	**33.0**	**6.2**	**137**	<0.5	<0.5	0	**16.0**	**<5.0**	**105**	**33.0**	**6.9**	**131**
	Benzo(a)pyrene TEQ (medium bound	mg/kg	0.5	**33.0**	**6.5**	**134**	0.6	0.6	0	**19.0**	**6.1**	**103**	**33.0**	**6.9**	**131**
	Benzo(a)pyrene TEQ (upper bound)*	mg/kg	0.5	**33.0**	**6.7**	**132**	1.2	1.2	0	**22.0**	**12.0**	**59**	**33.0**	**6.9**	**131**
	Benzo(b,j)fluoranthene	mg/kg	0.5	**15.0**	**3.1**	**131**	<0.5	<0.5	0	**11.0**	**<5.0**	**75**	15.0		
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab	**7.8**	**2.6**	**100**	<0.5	<0.5	0	<10.0	<5.0	0	**7.8**	**3.0**	**89**
	Benzo(k)fluoranthene	mg/kg	0.5	**24.0**	**4.1**	**142**	<0.5	<0.5	0	**12.0**	**<5.0**	**82**	24.0		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab	**29.0**	**3.6**	**156**	<0.5	<0.5	0	**9.0**	**<5.0**	**57**	**29.0**	**3.5**	**157**
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	**1.6**	**<0.5**	**105**	<0.5	<0.5	0	<5.0	<5.0	0	**1.6**	**0.7**	**78**
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab	**100.0**	**7.2**	**173**	<0.5	<0.5	0	**9.6**	**7.0**	**31**	**100.0**	**4.7**	**182**
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab	**3.1**	**<0.5**	**144**	<0.5	<0.5	0	<5.0	<5.0	0	**3.1**	**<0.1**	**188**
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab	**15.0**	**3.5**	**124**	<0.5	<0.5	0	<10.0	<5.0	0	**15.0**	**2.4**	**145**
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab	**48.0**	**1.6**	**187**	<0.5	<0.5	0	<5.0	<5.0	0	**48.0**	**1.9**	**185**
	PAHs (Total)	mg/kg	0.5	**402.0**	**41.8**	**162**	<0.5	<0.5	0	**74.0**	**14.7**	**134**	402.0		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab	**90.0**	**8.2**	**167**	<0.5	<0.5	0	**11.0**	**7.7**	**35**	**90.0**	**4.9**	**179**
OCP	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Aldrin + Dieldrin (Sum of Total)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05		
	alpha-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	beta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Chlordane	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<1.0	<1.0	0	<0.1		
	DDD	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	DDT	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Dieldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	DDT+DDE+DDD (Sum of Total)	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	delta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endosulfan alpha	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endosulfan beta	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05		
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Heptachlor Epoxide	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Lindane	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab)				<0.2	<0.2	0	<0.5	<0.5	0			
	Methoxychlor	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0
	Toxaphene	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0		
PCB	Aroclor 1016	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1016	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	Aroclor 1221	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0				<0.1	<0.1	0
	Aroclor 1232	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1232	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	Aroclor 1242	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1242	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	Aroclor 1248	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1248	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	Aroclor 1254	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1254	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	Aroclor 1260	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	Aroclor 1260	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
	PCBs (Total)	mg/kg	0.5 (Primary): 0.1 (Interlab)				<0.5	<0.5	0						
	PCBs (Total)	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0
OCP	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0	<0.05	<0.05	0	<0.5	<0.5	0	<0.05	<0.1	0
Asbestos	Approx. Sample Mass	G		365.0	366.0	0	778.0	795.0	2	636.0	521.0	20	365.0		
	Asbestos from ACM in Soil	%w/w		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Asbestos from FA & AF in Soil	%w/w		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Asbestos Reported Result	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
	Mass ACM	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass Asbestos in ACM	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass FA	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass Asbestos in FA	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass AF	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass Asbestos in AF	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	Mass Asbestos in FA & AF	G		0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0		
	ACM - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
	AF - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
	FA - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
	Organic Fibres - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
	Respirable Fibres - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	0.0	1.0	200	1.0		
	Synthetic Fibres - Comment	COMMENT		1.0	1.0	0	1.0	1.0	0	1.0	1.0	0	1.0		
Inorganic	% Moisture 103oC	%	1	23.0	20.0	14	8.5	10.0	16	**15.0**	**28.0**	**60**	23.0		
OCP	Organochlorine Pesticides EPAVic	mg/kg	0.1	<0.1	<0.1	0	<0.2	<0.2	0	<1.0	<1.0	0	<0.1		
	Other Organochlorine Pesticides EPA	mg/kg	0.1	<0.1	<0.1	0	<0.2	<0.2	0	<1.0	<1.0	0	<0.1		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 30 (1-10 x EQL); 30 (10-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

INSERT TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

Field Duplicates (SOIL)
Filter: SDG in('716335','714933','714502','713049

SDG	713049	ENVIROLAB 2020-04-14T00:00:00			714933	ENVIROLAB 2020-04-22T00:00:00			
Field ID	HA06 0-0.1	QC 20200407-1	**RPD**		TP4_0.0-0.1	QC20200421	**RPD**		
Sampled Date/Time	07-04-20	07-04-20			21-04-20	21-04-20			

Method_Ty	ChemName	Units	EQL						
Heavy Meta	Arsenic (Total)	mg/kg	2 (Primary): 4 (Interlab)	5.2	<4.0	26	**8.2**	**5.0**	**48**
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	<0.4	0
	Chromium (Total)	mg/kg	5 (Primary): 1 (Interlab)	9.5	8.0	17	6.4	5.0	25
	Copper	mg/kg	5 (Primary): 1 (Interlab)	43.0	46.0	7	<5.0	4.0	0
	Lead	mg/kg	5 (Primary): 1 (Interlab)	**170.0**	**120.0**	**34**	17.0	16.0	6
	Mercury (Inorganic)	mg/kg	0.1	0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 (Primary): 1 (Interlab)	<5.0	5.0	0	<5.0	2.0	0
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	240.0	320.0	29	12.0	12.0	0
Organic	C6-C9 Fraction	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<25.0	0	<20.0	<25.0	0
TPH	C10-C14 Fraction	mg/kg	20 (Primary): 50 (Interlab)	30.0	<50.0	0	<20.0	<50.0	0
	C15-C28 Fraction	mg/kg	50 (Primary): 100 (Interlab	**650.0**	**210.0**	**102**	<50.0	<100.0	0
	C29-C36 Fraction	mg/kg	50 (Primary): 100 (Interlab	**540.0**	**390.0**	**32**	<50.0	<100.0	0
	C10-C36 Fraction (Total)	mg/kg	50	1220.0			<50.0		
Organic	>C10-C16 Fraction	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	>C16-C34 Fraction	mg/kg	100	**1000.0**	**460.0**	**74**	<100.0	<100.0	0
	>C34-C40 Fraction	mg/kg	100	290.0	370.0	24	<100.0	<100.0	0
	>C10-C40 Fraction (Total)	mg/kg	100 (Primary): 50 (Interlab	**1290.0**	**830.0**	**43**	<100.0	<50.0	0
	>C10-C16 less Naphthalene (F2)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0
	C6-C10 Fraction	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<25.0	0	<20.0	<25.0	0
	C6-C10 less BTEX (F1)	mg/kg	20 (Primary): 25 (Interlab)	<20.0	<25.0	0	<20.0	<25.0	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
PAH	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<5.0	<0.1	0	<0.5	<0.1	0
Volatile	Benzene	mg/kg	0.1 (Primary): 0.2 (Interlab	<0.1	<0.2	0	<0.1	<0.2	0
	Ethylbenzene	mg/kg	0.1 (Primary): 1 (Interlab)	<0.1	<1.0	0	<0.1	<1.0	0
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interlab	<0.1	<0.5	0	<0.1	<0.5	0
	Xylene (o)	mg/kg	0.1 (Primary): 1 (Interlab)	<0.1	<1.0	0	<0.1	<1.0	0
	Xylene (m & p)	mg/kg	0.2 (Primary): 2 (Interlab)	<0.2	<2.0	0	<0.2	<2.0	0
	Xylene (Total)	mg/kg	0.3 (Primary): 3 (Interlab)	<0.3	<3.0	0	<0.3	<3.0	0
	Xylene (Total)	mg/kg	0.3 (Primary): 1 (Interlab)						
PAH	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	<0.1	0	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	<0.1	0	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	0.2	0	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	**8.4**	**2.7**	**103**	<0.5	<0.1	0
	Benzo(a)pyrene	mg/kg	0.5 (Primary): 0.05 (Interla	**13.0**	**3.2**	**121**	<0.5	<0.05	0
	Benzo(a)pyrene TEQ (lower bound)*	mg/kg	0.5	**16.0**	**4.9**	**106**	<0.5	<0.5	0
	Benzo(a)pyrene TEQ (medium bound	mg/kg	0.5	**19.0**	**4.9**	**118**	0.6	<0.5	18
	Benzo(a)pyrene TEQ (upper bound)*	mg/kg	0.5	**22.0**	**4.9**	**127**	**1.2**	**<0.5**	**82**
	Benzo(b,j)fluoranthene	mg/kg	0.5	11.0			<0.5		
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab	<10.0	2.0	0	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5	12.0			<0.5		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab	**9.0**	**1.8**	**133**	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	0.7	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab	**9.6**	**3.8**	**87**	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	<0.1	0	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab	<10.0	1.9	0	<0.5	<0.1	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab	<5.0	1.0	0	<0.5	<0.1	0
	PAHs (Total)	mg/kg	0.5	74.0			<0.5		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab	**11.0**	**3.8**	**97**	<0.5	<0.1	0
OCP	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Aldrin + Dieldrin (Sum of Total)	mg/kg	0.05	<0.5			<0.05		
	alpha-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	beta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Chlordane	mg/kg	0.1	<1.0			<0.1		
	DDD	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	DDT	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Dieldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	DDT+DDE+DDD (Sum of Total)	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	delta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endosulfan alpha	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endosulfan beta	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endosulfan sulphate	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endrin aldehyde	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Endrin ketone	mg/kg	0.05	<0.5			<0.05		
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Heptachlor Epoxide	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Lindane	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
	Methoxychlor	mg/kg	0.2 (Primary): 0.1 (Interlab	<0.5	<0.1	0	<0.2	<0.1	0
	Methoxychlor	mg/kg	0.05 (Primary): 0.1 (Interla						
	Toxaphene	mg/kg	1	<1.0			<1.0		
PCB	Aroclor 1016	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1016	mg/kg	0.1						
	Aroclor 1221	mg/kg	0.1				<0.1	<0.1	0
	Aroclor 1232	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1232	mg/kg	0.1						
	Aroclor 1242	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1242	mg/kg	0.1						
	Aroclor 1248	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1248	mg/kg	0.1						
	Aroclor 1254	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1254	mg/kg	0.1						
	Aroclor 1260	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	Aroclor 1260	mg/kg	0.1						
	PCBs (Total)	mg/kg	0.5 (Primary): 0.1 (Interlab				<0.5	<0.1	0
	PCBs (Total)	mg/kg	0.1						
OCP	Hexachlorobenzene	mg/kg	0.05 (Primary): 0.1 (Interla	<0.5	<0.1	0	<0.05	<0.1	0
Asbestos	Approx. Sample Mass	G		636.0			778.0		
	Asbestos from ACM in Soil	%w/w		0.0			0.0		
	Asbestos from FA & AF in Soil	%w/w		0.0			0.0		
	Asbestos Reported Result	COMMENT		1.0			1.0		
	Mass ACM	G		0.0			0.0		
	Mass Asbestos in ACM	G		0.0			0.0		
	Mass FA	G		0.0			0.0		
	Mass Asbestos in FA	G		0.0			0.0		
	Mass AF	G		0.0			0.0		
	Mass Asbestos in AF	G		0.0			0.0		
	Mass Asbestos in FA & AF	G		0.0			0.0		
	ACM - Comment	COMMENT		1.0			1.0		
	AF - Comment	COMMENT		1.0			1.0		
	FA - Comment	COMMENT		1.0			1.0		
	Organic Fibres - Comment	COMMENT		1.0			1.0		
	Respirable Fibres - Comment	COMMENT		0.0			1.0		
	Synthetic Fibres - Comment	COMMENT		1.0			1.0		
Inorganic	% Moisture 103oC	%	1	15.0			8.5		
OCP	Organochlorine Pesticides EPAVic	mg/kg	0.1	<1.0			<0.2		
	Other Organochlorine Pesticides EPA	mg/kg	0.1	<1.0			<0.2		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 30 (1-10 x EC
***Interlab Duplicates are matched on a per compound basis as methods vary between la

Appendix D Laboratory Reports and Chain of Custody

eurofins | mgt

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

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

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

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**

Contact name: George Black
Project name: KAMBALA
Project ID: 55769
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Jan 9, 2019 1:58 PM
Eurofins | mgt reference: **635079**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 11.8 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☑ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

QA01 sent to Envirolab for analysis.

Contact notes

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

Nibha Vaidya on Phone : +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

Note: A copy of these results will also be delivered to the general JBS & G Australia (NSW) P/L email address.

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

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: **George Black**

Report **635079-S**
Project name KAMBALA
Project ID 55769
Received Date Jan 09, 2019

Client Sample ID			**BH04_0-0.1**	**BH04_1.0-1.1**	**BH06_0.3-0.4**	**BH06_3.0-3.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02892**	**S19-Ja02893**	**S19-Ja02894**	**S19-Ja02895**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 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	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	-	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	-	86	83
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	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 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	-

Client Sample ID			BH04_0-0.1	BH04_1.0-1.1	BH06_0.3-0.4	BH06_3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02892	S19-Ja02893	S19-Ja02894	S19-Ja02895
Date Sampled			Jan 08, 2019	Jan 08, 2019	Jan 08, 2019	Jan 08, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	109	-	118	-
p-Terphenyl-d14 (surr.)	1	%	142	-	128	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	60	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	17	< 5	< 5
Copper	5	mg/kg	6.5	37	8.5	< 5
Lead	5	mg/kg	5.3	74	30	7.2
Mercury	0.1	mg/kg	< 0.1	0.2	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	29	< 5	< 5
Zinc	5	mg/kg	11	200	18	< 5
% Moisture	1	%	5.4	11	7.7	17

Client Sample ID			BH08_0-0.1	BH08_3.5-3.6	BH09_0-0.1	BH09_1.5-1.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02896	S19-Ja02897	S19-Ja02898	S19-Ja02899
Date Sampled			Jan 08, 2019	Jan 08, 2019	Jan 08, 2019	Jan 08, 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	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	89	100	87	103
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	< 100	< 100	< 100	< 100

Client Sample ID			BH08_0-0.1	BH08_3.5-3.6	BH09_0-0.1	BH09_1.5-1.6
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02896**	**S19-Ja02897**	**S19-Ja02898**	**S19-Ja02899**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 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
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	%	112	-	-	91
p-Terphenyl-d14 (surr.)	1	%	125	-	-	68
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	7.0	< 5	6.2
Copper	5	mg/kg	< 5	5.2	17	< 5
Lead	5	mg/kg	8.8	18	9.7	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	8.8	19	25	5.4
% Moisture	1	%	9.8	18	6.9	7.8

Client Sample ID			BH09_4.0-4.1	HA01_0-0.1	QC-01	HA01_0.9-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02900**	**S19-Ja02901**	**S19-Ja02902**	**S19-Ja02903**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 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	< 50	1300	250	-
TRH C29-C36	50	mg/kg	< 50	670	400	-
TRH C10-36 (Total)	50	mg/kg	< 50	1970	650	-

Client Sample ID			BH09_4.0-4.1	HA01_0-0.1	QC-01	HA01_0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02900	S19-Ja02901	S19-Ja02902	S19-Ja02903
Date Sampled			Jan 08, 2019	Jan 08, 2019	Jan 08, 2019	Jan 08, 2019
Test/Reference	LOR	Unit				
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	1.4	0.2	-
o-Xylene	0.1	mg/kg	< 0.1	0.8	0.3	-
Xylenes - Total	0.3	mg/kg	< 0.3	2.1	0.6	-
4-Bromofluorobenzene (surr.)	1	%	97	90	95	-
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	< 100	1700	510	-
TRH >C34-C40	100	mg/kg	< 100	450	310	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	2150	820	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	33	6.2	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	33	6.5	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	33	6.7	-
Acenaphthene	0.5	mg/kg	-	4.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	15	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	26	3.1	-
Benzo(a)pyrene	0.5	mg/kg	-	23	4.8	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	15	3.1	-
Benzo(g.h.i)perylene	0.5	mg/kg	-	7.8	2.6	-
Benzo(k)fluoranthene	0.5	mg/kg	-	24	4.1	-
Chrysene	0.5	mg/kg	-	29	3.6	-
Dibenz(a.h)anthracene	0.5	mg/kg	-	1.6	< 0.5	-
Fluoranthene	0.5	mg/kg	-	100	7.2	-
Fluorene	0.5	mg/kg	-	3.1	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	15	3.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	48	1.6	-
Pyrene	0.5	mg/kg	-	90	8.2	-
Total PAH*	0.5	mg/kg	-	402	41.8	-
2-Fluorobiphenyl (surr.)	1	%	-	101	112	-
p-Terphenyl-d14 (surr.)	1	%	-	63	93	-
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	-

Client Sample ID			BH09_4.0-4.1	HA01_0-0.1	QC-01	HA01_0.9-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02900**	**S19-Ja02901**	**S19-Ja02902**	**S19-Ja02903**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Toxaphene	1	mg/kg	-	< 1	< 1	-
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	%	-	int	104	-
Tetrachloro-m-xylene (surr.)	1	%	-	109	137	-
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	%	-	int	104	-
Tetrachloro-m-xylene (surr.)	1	%	-	109	137	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.3	2.2	2.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	8.3	10	6.4
Copper	5	mg/kg	< 5	43	41	39
Lead	5	mg/kg	9.7	220	230	170
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	5.4	390	430	180
% Moisture	1	%	13	23	20	11

Client Sample ID			HA02_0-0.1	HA02_0.4-0.5	HA03_0-0.1	HA03_0.9-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02904**	**S19-Ja02905**	**S19-Ja02906**	**S19-Ja02907**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 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	180	250	320	< 50
TRH C29-C36	50	mg/kg	200	280	220	< 50
TRH C10-36 (Total)	50	mg/kg	380	530	540	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	0.5	0.2	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	3.3	2.0	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	1.2	0.8	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	4.5	2.8	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83	96	105	117
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	290	460	500	< 100
TRH >C34-C40	100	mg/kg	180	190	130	< 100
TRH >C10-C40 (total)*	100	mg/kg	470	650	630	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	5.8	-	1.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	5.8	-	1.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	5.8	-	1.6
Acenaphthene	0.5	mg/kg	-	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	0.6	-	< 0.5
Anthracene	0.5	mg/kg	-	0.7	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	3.4	-	0.7
Benzo(a)pyrene	0.5	mg/kg	-	3.9	-	0.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	2.8	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	2.3	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	3.5	-	0.8
Chrysene	0.5	mg/kg	-	3.3	-	0.8
Dibenz(a.h)anthracene	0.5	mg/kg	-	0.7	-	< 0.5
Fluoranthene	0.5	mg/kg	-	6.3	-	1.7
Fluorene	0.5	mg/kg	-	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	1.8	-	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	-	2.0	-	0.5
Pyrene	0.5	mg/kg	-	6.2	-	1.6
Total PAH*	0.5	mg/kg	-	37.5	-	6.9
2-Fluorobiphenyl (surr.)	1	%	-	51	-	51
p-Terphenyl-d14 (surr.)	1	%	-	53	-	59

Client Sample ID			HA02_0-0.1	HA02_0.4-0.5	HA03_0-0.1	HA03_0.9-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02904**	**S19-Ja02905**	**S19-Ja02906**	**S19-Ja02907**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.1	2.3	2.1	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.4	5.6	6.7	5.9
Copper	5	mg/kg	50	44	32	14
Lead	5	mg/kg	180	130	120	39
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	290	360	170	55
% Moisture	1	%	31	17	13	8.3

Client Sample ID			HA04_0-0.1	HA04_1.4-1.5	HA05_0-0.1	HA05_1.0-1.1
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02908**	**S19-Ja02909**	**S19-Ja02910**	**S19-Ja02911**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 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	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	101	112	-	100
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	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 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			HA04_0-0.1	HA04_1.4-1.5	HA05_0-0.1	HA05_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02908	S19-Ja02909	S19-Ja02910	S19-Ja02911
Date Sampled			Jan 08, 2019	Jan 08, 2019	Jan 08, 2019	Jan 08, 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	%	59	-	-	68
p-Terphenyl-d14 (surr.)	1	%	71	-	-	84
Heavy Metals						
Arsenic	2	mg/kg	3.1	< 2	< 2	2.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.8	< 5	6.9	< 5
Copper	5	mg/kg	6.0	< 5	8.6	< 5
Lead	5	mg/kg	17	9.1	10	9.8
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	20	< 5	24	9.8
% Moisture	1	%	10.0	7.0	17	10

Client Sample ID			BH03_0-0.1	BH03_2.5-2.6	BH10_0-0.1	BH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02912	S19-Ja02913	S19-Ja02914	S19-Ja02915
Date Sampled			Jan 09, 2019	Jan 09, 2019	Jan 09, 2019	Jan 09, 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	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	109	106	106	-

Client Sample ID			BH03_0-0.1	BH03_2.5-2.6	BH10_0-0.1	BH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02912	S19-Ja02913	S19-Ja02914	S19-Ja02915
Date Sampled			Jan 09, 2019	Jan 09, 2019	Jan 09, 2019	Jan 09, 2019
Test/Reference	LOR	Unit				
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	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 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	-
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	%	-	52	55	-
p-Terphenyl-d14 (surr.)	1	%	-	53	56	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.3	10.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.2	< 5	< 5	15
Copper	5	mg/kg	10	< 5	< 5	< 5
Lead	5	mg/kg	9.0	7.4	8.5	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	8.4	< 5	12	8.6
% Moisture	1	%	8.7	13	11	15

Client Sample ID			BH07_0-0.1	BH07_1.5-1.6	BH07_4.0-4.1
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S19-Ja02916**	**S19-Ja02917**	**S19-Ja02918**
Date Sampled			**Jan 09, 2019**	**Jan 09, 2019**	**Jan 09, 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	%	114	-	110
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	-	0.9
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	1.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.5
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	-	0.8
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	-	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	1.0
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	0.7
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	-	1.1
Total PAH*	0.5	mg/kg	< 0.5	-	4.7
2-Fluorobiphenyl (surr.)	1	%	50	-	66
p-Terphenyl-d14 (surr.)	1	%	55	-	66

Client Sample ID			BH07_0-0.1	BH07_1.5-1.6	BH07_4.0-4.1
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			S19-Ja02916	S19-Ja02917	S19-Ja02918
Date Sampled			Jan 09, 2019	Jan 09, 2019	Jan 09, 2019
Test/Reference	LOR	Unit			
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	%	-	-	69
Tetrachloro-m-xylene (surr.)	1	%	-	-	83
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	%	-	-	69
Tetrachloro-m-xylene (surr.)	1	%	-	-	83
Heavy Metals					
Arsenic	2	mg/kg	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	< 5
Copper	5	mg/kg	< 5	18	< 5
Lead	5	mg/kg	7.2	47	< 5
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	54	< 5
% Moisture	1	%	4.3	11	16

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
JBS&G Suite 2			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Jan 15, 2019	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Melbourne	Jan 15, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Melbourne	Jan 15, 2019	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Jan 09, 2019	14 Day
- Method: LTM-GEN-7080 Moisture			

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail	Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217	X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	TS	Jan 08, 2019		Water	S19-Ja02890				X				
2	TB	Jan 08, 2019		Water	S19-Ja02891				X				
3	BH04_0-0.1	Jan 08, 2019		Soil	S19-Ja02892	X					X	X	
4	BH04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02893			X			X		
5	BH06_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02894	X					X	X	
6	BH06_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02895			X			X		X	
7	BH08_0-0.1	Jan 08, 2019		Soil	S19-Ja02896	X					X	X	
8	BH08_3.5-3.6	Jan 08, 2019		Soil	S19-Ja02897			X			X		X	
9	BH09_0-0.1	Jan 08, 2019		Soil	S19-Ja02898			X			X		X	

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	BH09_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02899	X					X	X		
11	BH09_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02900			X			X		X	
12	HA01_0-0.1	Jan 08, 2019		Soil	S19-Ja02901	X				X	X	X		
13	QC-01	Jan 08, 2019		Soil	S19-Ja02902	X				X	X	X		
14	HA01_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02903			X			X			
15	HA02_0-0.1	Jan 08, 2019		Soil	S19-Ja02904			X			X		X	
16	HA02_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02905	X					X	X		
17	HA03_0-0.1	Jan 08, 2019		Soil	S19-Ja02906			X			X		X	
18	HA03_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02907	X					X	X		
19	HA04_0-0.1	Jan 08, 2019		Soil	S19-Ja02908	X					X	X		
20	HA04_1.4-1.5	Jan 08, 2019		Soil	S19-Ja02909			X			X		X	
21	HA05_0-0.1	Jan 08, 2019		Soil	S19-Ja02910			X			X			

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
22	HA05_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02911	X					X	X		
23	BH03_0-0.1	Jan 09, 2019		Soil	S19-Ja02912			X			X		X	
24	BH03_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02913	X					X	X		
25	BH10_0-0.1	Jan 09, 2019		Soil	S19-Ja02914	X					X	X		
26	BH10_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02915			X			X			
27	BH07_0-0.1	Jan 09, 2019		Soil	S19-Ja02916	X					X	X		
28	BH07_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02917			X			X			
29	BH07_4.0-4.1	Jan 09, 2019		Soil	S19-Ja02918	X				X	X	X		
30	RIN	Jan 09, 2019		Water	S19-Ja02919									X
31	BH04_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02933		X							
32	BH04_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02934		X							
33	BH06_0-0.1	Jan 08, 2019		Soil	S19-Ja02935		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
34	BH06_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02936		X							
35	BH06_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02937		X							
36	BH06_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02938		X							
37	BH08_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02939		X							
38	BH08_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02940		X							
39	BH08_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02941		X							
40	BH08_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02942		X							
41	BH08_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02943		X							
42	BH08_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02944		X							
43	BH08_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02945		X							
44	BH08_4.5-4.6	Jan 08, 2019		Soil	S19-Ja02946		X							
45	BH09_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02947		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
46	BH09_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02948		X							
47	BH09_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02949		X							
48	BH09_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02950		X							
49	HA01_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02951		X							
50	HA03_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02952		X							
51	HA03_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02953		X							
52	HA04_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02954		X							
53	HA04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02955		X							
54	HA05_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02956		X							
55	BH03_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02957		X							
56	BH03_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02958		X							
57	BH03_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02959		X							

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
58	BH03_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02960		X							
59	BH03_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02961		X							
60	BH10_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02962		X							
61	BH07_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02963		X							
62	BH07_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02964		X							
63	BH07_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02965		X							
64	BH07_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02966		X							
65	BH07_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02967		X							
Test Counts						14	35	13	2	3	27	14	8	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, April 2011 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. 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 5.2 2018
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.2 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							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
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							
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	%	100			70-130	Pass	
TRH C10-C14	%	93			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	108			70-130	Pass	
Ethylbenzene	%	120			70-130	Pass	
m&p-Xylenes	%	125			70-130	Pass	
Xylenes - Total	%	124			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	119			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
TRH >C10-C16	%	94			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	120			70-130	Pass	
Acenaphthylene	%	117			70-130	Pass	
Anthracene	%	118			70-130	Pass	
Benz(a)anthracene	%	92			70-130	Pass	
Benzo(a)pyrene	%	92			70-130	Pass	
Benzo(b&j)fluoranthene	%	97			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	102			70-130	Pass	
Chrysene	%	121			70-130	Pass	
Dibenz(a.h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	103			70-130	Pass	
Fluorene	%	124			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	88			70-130	Pass	
Naphthalene	%	120			70-130	Pass	
Phenanthrene	%	120			70-130	Pass	
Pyrene	%	122			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	79			70-130	Pass	
4.4'-DDD	%	88			70-130	Pass	
4.4'-DDE	%	108			70-130	Pass	
4.4'-DDT	%	84			70-130	Pass	
a-BHC	%	93			70-130	Pass	
Aldrin	%	86			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	106			70-130	Pass	
Dieldrin	%	98			70-130	Pass	
Endosulfan I	%	71			70-130	Pass	
Endosulfan II	%	106			70-130	Pass	
Endosulfan sulphate	%	116			70-130	Pass	
Endrin	%	112			70-130	Pass	
Endrin aldehyde	%	124			70-130	Pass	
Endrin ketone	%	81			70-130	Pass	
g-BHC (Lindane)	%	79			70-130	Pass	
Heptachlor	%	110			70-130	Pass	
Heptachlor epoxide	%	95			70-130	Pass	
Hexachlorobenzene	%	124			70-130	Pass	
Methoxychlor	%	117			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	101			80-120	Pass	
Cadmium	%	110			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	106			80-120	Pass	
Lead	%	107			80-120	Pass	
Mercury	%	107			75-125	Pass	
Nickel	%	105			80-120	Pass	
Zinc	%	103			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	S19-Ja02894	CP	%	87			70-130	Pass	
TRH C10-C14	S19-Ja02894	CP	%	124			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Ja02894	CP	%	75			70-130	Pass	
Toluene	S19-Ja02894	CP	%	84			70-130	Pass	
Ethylbenzene	S19-Ja02894	CP	%	89			70-130	Pass	
m&p-Xylenes	S19-Ja02894	CP	%	92			70-130	Pass	
o-Xylene	S19-Ja02894	CP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total	S19-Ja02894	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Ja02894	CP	%	86			70-130	Pass	
TRH C6-C10	S19-Ja02894	CP	%	84			70-130	Pass	
TRH >C10-C16	S19-Ja02894	CP	%	128			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Ja02894	CP	%	71			70-130	Pass	
Acenaphthylene	S19-Ja02894	CP	%	76			70-130	Pass	
Anthracene	S19-Ja02894	CP	%	95			70-130	Pass	
Benz(a)anthracene	S19-Ja02894	CP	%	78			70-130	Pass	
Benzo(a)pyrene	S19-Ja02894	CP	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Ja02894	CP	%	75			70-130	Pass	
Benzo(g.h.i)perylene	S19-Ja02894	CP	%	76			70-130	Pass	
Benzo(k)fluoranthene	S19-Ja02894	CP	%	77			70-130	Pass	
Chrysene	S19-Ja02894	CP	%	86			70-130	Pass	
Dibenz(a.h)anthracene	S19-Ja02894	CP	%	73			70-130	Pass	
Fluoranthene	S19-Ja02894	CP	%	112			70-130	Pass	
Fluorene	S19-Ja02894	CP	%	74			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Ja02894	CP	%	75			70-130	Pass	
Naphthalene	S19-Ja02894	CP	%	70			70-130	Pass	
Phenanthrene	S19-Ja02894	CP	%	74			70-130	Pass	
Pyrene	S19-Ja02894	CP	%	109			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Ja02898	CP	%	109			75-125	Pass	
Cadmium	S19-Ja02898	CP	%	109			75-125	Pass	
Chromium	S19-Ja02898	CP	%	119			75-125	Pass	
Copper	S19-Ja02898	CP	%	115			75-125	Pass	
Lead	S19-Ja02898	CP	%	116			75-125	Pass	
Mercury	S19-Ja02898	CP	%	120			70-130	Pass	
Nickel	S19-Ja02898	CP	%	116			75-125	Pass	
Zinc	S19-Ja02898	CP	%	110			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M19-Ja07747	NCP	%	119			70-130	Pass	
4.4'-DDE	M19-Ja07747	NCP	%	96			70-130	Pass	
4.4'-DDT	M19-Ja07747	NCP	%	130			70-130	Pass	
a-BHC	M19-Ja07747	NCP	%	97			70-130	Pass	
Aldrin	M19-Ja06264	NCP	%	102			70-130	Pass	
b-BHC	M19-Ja07747	NCP	%	74			70-130	Pass	
d-BHC	M19-Ja07747	NCP	%	96			70-130	Pass	
Dieldrin	M19-Ja06264	NCP	%	112			70-130	Pass	
Endosulfan I	M19-Ja07747	NCP	%	75			70-130	Pass	
Endosulfan II	M19-Ja07747	NCP	%	101			70-130	Pass	
Endosulfan sulphate	M19-Ja07747	NCP	%	95			70-130	Pass	
Endrin	M19-Ja07747	NCP	%	99			70-130	Pass	
Endrin aldehyde	M19-Ja07747	NCP	%	105			70-130	Pass	
Endrin ketone	M19-Ja07747	NCP	%	75			70-130	Pass	
g-BHC (Lindane)	M19-Ja07747	NCP	%	75			70-130	Pass	
Heptachlor	M19-Ja07747	NCP	%	119			70-130	Pass	
Heptachlor epoxide	M19-Ja07747	NCP	%	97			70-130	Pass	
Hexachlorobenzene	M19-Ja07747	NCP	%	124			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor	M19-Ja07747	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Ja02905	CP	%	92			70-130	Pass	
TRH C10-C14	S19-Ja02905	CP	%	102			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Ja02905	CP	%	73			70-130	Pass	
Toluene	S19-Ja02905	CP	%	96			70-130	Pass	
Ethylbenzene	S19-Ja02905	CP	%	110			70-130	Pass	
m&p-Xylenes	S19-Ja02905	CP	%	114			70-130	Pass	
o-Xylene	S19-Ja02905	CP	%	111			70-130	Pass	
Xylenes - Total	S19-Ja02905	CP	%	113			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Ja02905	CP	%	102			70-130	Pass	
TRH C6-C10	S19-Ja02905	CP	%	94			70-130	Pass	
TRH >C10-C16	S19-Ja02905	CP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Ja02908	CP	%	113			75-125	Pass	
Cadmium	S19-Ja02908	CP	%	102			75-125	Pass	
Chromium	S19-Ja02908	CP	%	116			75-125	Pass	
Copper	S19-Ja02908	CP	%	115			75-125	Pass	
Lead	S19-Ja02908	CP	%	117			75-125	Pass	
Mercury	S19-Ja02908	CP	%	104			70-130	Pass	
Nickel	S19-Ja02908	CP	%	113			75-125	Pass	
Zinc	S19-Ja02908	CP	%	118			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M19-Ja06348	NCP	%	112			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-Ja02892	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Ja02892	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Ja02892	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Ja02892	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Ja02892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Ja02892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Ja02892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Ja02892	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Ja02892	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Ja02892	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Ja02892	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Ja02892	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Ja02892	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Ja02892	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Ja02892	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Ja02897	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S19-Ja02897	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Ja02897	CP	mg/kg	7.0	6.4	9.0	30%	Pass	
Copper	S19-Ja02897	CP	mg/kg	5.2	5.1	2.0	30%	Pass	
Lead	S19-Ja02897	CP	mg/kg	18	18	<1	30%	Pass	
Mercury	S19-Ja02897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Ja02897	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S19-Ja02897	CP	mg/kg	19	17	12	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Ja02898	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S19-Ja02898	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Ja02898	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S19-Ja02898	CP	mg/kg	17	17	3.0	30%	Pass	
Lead	S19-Ja02898	CP	mg/kg	9.7	9.9	2.0	30%	Pass	
Mercury	S19-Ja02898	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Ja02898	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S19-Ja02898	CP	mg/kg	25	25	2.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-Ja07746	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M19-Ja07746	NCP	mg/kg	0.49	0.49	<1	30%	Pass	
b-BHC	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M19-Ja07746	NCP	mg/kg	0.82	0.80	3.0	30%	Pass	
Endosulfan I	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Heptachlor	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M19-Ja07746	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Ja02901	CP	%	23	23	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Ja02904	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Ja02904	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Ja02904	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Ja02904	CP	mg/kg	0.5	0.4	14	30%	Pass	
m&p-Xylenes	S19-Ja02904	CP	mg/kg	3.3	3.0	11	30%	Pass	
o-Xylene	S19-Ja02904	CP	mg/kg	1.2	1.1	12	30%	Pass	
Xylenes - Total	S19-Ja02904	CP	mg/kg	4.5	4.0	11	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Ja02904	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Ja02904	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Ja02907	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S19-Ja02907	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Ja02907	CP	mg/kg	5.9	5.3	12	30%	Pass	
Copper	S19-Ja02907	CP	mg/kg	14	12	11	30%	Pass	
Lead	S19-Ja02907	CP	mg/kg	39	33	17	30%	Pass	
Mercury	S19-Ja02907	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Ja02907	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S19-Ja02907	CP	mg/kg	55	54	3.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Ja02908	CP	mg/kg	3.1	3.4	7.0	30%	Pass	
Cadmium	S19-Ja02908	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Ja02908	CP	mg/kg	7.8	8.0	2.0	30%	Pass	
Copper	S19-Ja02908	CP	mg/kg	6.0	6.2	2.0	30%	Pass	
Lead	S19-Ja02908	CP	mg/kg	17	17	1.0	30%	Pass	
Mercury	S19-Ja02908	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Ja02908	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S19-Ja02908	CP	mg/kg	20	20	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Ja02911	CP	%	10	11	5.0	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M18-De30880	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M18-De30880	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M18-De30880	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M18-De30880	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M18-De30880	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M18-De30880	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Aroclor-1260	M18-De30880	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Total PCB*	M18-De30880	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Comments

Eurofins | mgt accreditation number 1261, corporate site 1254 and 14271 is currently in progress of a controlled transition to a new custom built location at 6 Monterey Road, Dandenong South, Victoria 3175. All results on this report denoted as being performed by Eurofins | mgt 2-5 Kingston Town Close, Oakleigh Victoria 3166 corporate site 1254, will have been performed on either Oakleigh or new Dandenong South site.

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised By

Nibha Vaidya	Analytical Services Manager
Chris Bennett	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (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.

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:	George Black
Report	635079-AID
Project Name	KAMBALA
Project ID	55769
Received Date	Jan 09, 2019
Date Reported	Jan 16, 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 KAMBALA
Project ID 55769
Date Sampled Jan 08, 2019 to Jan 09, 2019
Report 635079-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
BH04_0-0.1	19-Ja02892	Jan 08, 2019	Approximate Sample 677g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH06_0.3-0.4	19-Ja02894	Jan 08, 2019	Approximate Sample 757g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH08_0-0.1	19-Ja02896	Jan 08, 2019	Approximate Sample 525g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH09_1.5-1.6	19-Ja02899	Jan 08, 2019	Approximate Sample 726g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
HA01_0-0.1	19-Ja02901	Jan 08, 2019	Approximate Sample 365g Sample consisted of: Dark brown fine-grained sandy soil and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
QC-01	19-Ja02902	Jan 08, 2019	Approximate Sample 366g Sample consisted of: Dark brown fine-grained sandy soil and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
HA02_0.4-0.5	19-Ja02905	Jan 08, 2019	Approximate Sample 679g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
HA03_0.9-1.0	19-Ja02907	Jan 08, 2019	Approximate Sample 515g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
HA04_0-0.1	19-Ja02908	Jan 08, 2019	Approximate Sample 680g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
HA05_1.0-1.1	19-Ja02911	Jan 08, 2019	Approximate Sample 609g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH03_2.5-2.6	19-Ja02913	Jan 09, 2019	Approximate Sample 749g Sample consisted of: Beige coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH10_0-0.1	19-Ja02914	Jan 09, 2019	Approximate Sample 798g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH07_0-0.1	19-Ja02916	Jan 09, 2019	Approximate Sample 775g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No respirable fibres detected.
BH07_4.0-4.1	19-Ja02918	Jan 09, 2019	Approximate Sample 917g Sample consisted of: Brown fine-grained sandy 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	Jan 09, 2019	Indefinite

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	TS	Jan 08, 2019		Water	S19-Ja02890				X					
2	TB	Jan 08, 2019		Water	S19-Ja02891				X					
3	BH04_0-0.1	Jan 08, 2019		Soil	S19-Ja02892	X					X	X		
4	BH04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02893			X			X			
5	BH06_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02894	X					X	X		
6	BH06_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02895			X			X		X	
7	BH08_0-0.1	Jan 08, 2019		Soil	S19-Ja02896	X					X	X		
8	BH08_3.5-3.6	Jan 08, 2019		Soil	S19-Ja02897			X			X		X	
9	BH09_0-0.1	Jan 08, 2019		Soil	S19-Ja02898			X			X		X	

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	BH09_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02899	X					X	X		
11	BH09_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02900			X			X		X	
12	HA01_0-0.1	Jan 08, 2019		Soil	S19-Ja02901	X				X	X	X		
13	QC-01	Jan 08, 2019		Soil	S19-Ja02902	X				X	X	X		
14	HA01_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02903			X			X			
15	HA02_0-0.1	Jan 08, 2019		Soil	S19-Ja02904			X			X		X	
16	HA02_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02905	X					X	X		
17	HA03_0-0.1	Jan 08, 2019		Soil	S19-Ja02906			X			X		X	
18	HA03_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02907	X					X	X		
19	HA04_0-0.1	Jan 08, 2019		Soil	S19-Ja02908	X					X	X		
20	HA04_1.4-1.5	Jan 08, 2019		Soil	S19-Ja02909			X			X		X	
21	HA05_0-0.1	Jan 08, 2019		Soil	S19-Ja02910			X			X			

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
22	HA05_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02911	X					X	X		
23	BH03_0-0.1	Jan 09, 2019		Soil	S19-Ja02912			X			X		X	
24	BH03_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02913	X					X	X		
25	BH10_0-0.1	Jan 09, 2019		Soil	S19-Ja02914	X					X	X		
26	BH10_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02915			X			X			
27	BH07_0-0.1	Jan 09, 2019		Soil	S19-Ja02916	X					X	X		
28	BH07_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02917			X			X			
29	BH07_4.0-4.1	Jan 09, 2019		Soil	S19-Ja02918	X				X	X	X		
30	RIN	Jan 09, 2019		Water	S19-Ja02919									X
31	BH04_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02933		X							
32	BH04_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02934		X							
33	BH06_0-0.1	Jan 08, 2019		Soil	S19-Ja02935		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
34	BH06_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02936		X							
35	BH06_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02937		X							
36	BH06_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02938		X							
37	BH08_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02939		X							
38	BH08_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02940		X							
39	BH08_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02941		X							
40	BH08_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02942		X							
41	BH08_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02943		X							
42	BH08_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02944		X							
43	BH08_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02945		X							
44	BH08_4.5-4.6	Jan 08, 2019		Soil	S19-Ja02946		X							
45	BH09_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02947		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
46	BH09_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02948		X							
47	BH09_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02949		X							
48	BH09_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02950		X							
49	HA01_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02951		X							
50	HA03_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02952		X							
51	HA03_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02953		X							
52	HA04_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02954		X							
53	HA04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02955		X							
54	HA05_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02956		X							
55	BH03_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02957		X							
56	BH03_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02958		X							
57	BH03_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02959		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
58	BH03_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02960		X							
59	BH03_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02961		X							
60	BH10_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02962		X							
61	BH07_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02963		X							
62	BH07_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02964		X							
63	BH07_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02965		X							
64	BH07_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02966		X							
65	BH07_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02967		X							
Test Counts						14	35	13	2	3	27	14	8	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. 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

Ja02901, Ja02902: Sample received was less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Eurofins | mgt accreditation number 1261, corporate site 1254 and 14271 is currently in progress of a controlled transition to a new custom built location at 6 Monterey Road, Dandenong South, Victoria 3175. All results on this report denoted as being performed by Eurofins | mgt 2-5 Kingston Town Close, Oakleigh Victoria 3166 corporate site 1254, will have been performed on either Oakleigh or new Dandenong South site.

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:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

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.

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

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: **George Black**

Report **635079-W**
Project name KAMBALA
Project ID 55769
Received Date Jan 09, 2019

Client Sample ID			R20 **TS**	**TB**	**RIN**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S19-Ja02890**	**S19-Ja02891**	**S19-Ja02919**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 09, 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	100	< 0.001	< 0.001
Toluene	0.001	mg/L	100	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	110	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	100	< 0.002	< 0.002
o-Xylene	0.001	mg/L	110	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	110	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	52	125	60
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			R20TS	TB	RIN
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S19-Ja02890**	**S19-Ja02891**	**S19-Ja02919**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 09, 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	%	-	-	80
p-Terphenyl-d14 (surr.)	1	%	-	-	95
Organochlorine Pesticides					
Chlordanes - Total	0.001	mg/L	-	-	< 0.001
4.4'-DDD	0.0001	mg/L	-	-	< 0.0001
4.4'-DDE	0.0001	mg/L	-	-	< 0.0001
4.4'-DDT	0.0001	mg/L	-	-	< 0.0001
a-BHC	0.0001	mg/L	-	-	< 0.0001
Aldrin	0.0001	mg/L	-	-	< 0.0001
b-BHC	0.0001	mg/L	-	-	< 0.0001
d-BHC	0.0001	mg/L	-	-	< 0.0001
Dieldrin	0.0001	mg/L	-	-	< 0.0001
Endosulfan I	0.0001	mg/L	-	-	< 0.0001
Endosulfan II	0.0001	mg/L	-	-	< 0.0001
Endosulfan sulphate	0.0001	mg/L	-	-	< 0.0001
Endrin	0.0001	mg/L	-	-	< 0.0001
Endrin aldehyde	0.0001	mg/L	-	-	< 0.0001
Endrin ketone	0.0001	mg/L	-	-	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	-	-	< 0.0001
Heptachlor	0.0001	mg/L	-	-	< 0.0001
Heptachlor epoxide	0.0001	mg/L	-	-	< 0.0001
Hexachlorobenzene	0.0001	mg/L	-	-	< 0.0001
Methoxychlor	0.0001	mg/L	-	-	< 0.0001
Toxaphene	0.01	mg/L	-	-	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	-	-	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	-	-	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	-	-	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	-	-	< 0.001
Dibutylchlorendate (surr.)	1	%	-	-	72
Tetrachloro-m-xylene (surr.)	1	%	-	-	INT
Polychlorinated Biphenyls					
Aroclor-1016	0.005	mg/L	-	-	< 0.005
Aroclor-1221	0.001	mg/L	-	-	< 0.001
Aroclor-1232	0.005	mg/L	-	-	< 0.005
Aroclor-1242	0.005	mg/L	-	-	< 0.005
Aroclor-1248	0.005	mg/L	-	-	< 0.005
Aroclor-1254	0.005	mg/L	-	-	< 0.005
Aroclor-1260	0.005	mg/L	-	-	< 0.005
Total PCB*	0.001	mg/L	-	-	< 0.001
Dibutylchlorendate (surr.)	1	%	-	-	72
Tetrachloro-m-xylene (surr.)	1	%	-	-	INT

Client Sample ID			R20TS	TB	RIN
Sample Matrix			**Water**	**Water**	**Water**
Eurofins | mgt Sample No.			**S19-Ja02890**	**S19-Ja02891**	**S19-Ja02919**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 09, 2019**
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	0.001	mg/L	-	-	< 0.001
Cadmium	0.0002	mg/L	-	-	< 0.0002
Chromium	0.001	mg/L	-	-	< 0.001
Copper	0.001	mg/L	-	-	< 0.001
Lead	0.001	mg/L	-	-	< 0.001
Mercury	0.0001	mg/L	-	-	< 0.0001
Nickel	0.001	mg/L	-	-	< 0.001
Zinc	0.005	mg/L	-	-	< 0.005

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
JBS&G Suite 2			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jan 10, 2019	7 Day
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jan 12, 2019	14 Day
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jan 10, 2019	7 Day
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jan 10, 2019	7 Day
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Jan 10, 2019	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Jan 10, 2019	7 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Jan 10, 2019	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Jan 10, 2019	28 Day
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail	Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217	X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID								
1	TS	Jan 08, 2019		Water	S19-Ja02890				X				
2	TB	Jan 08, 2019		Water	S19-Ja02891				X				
3	BH04_0-0.1	Jan 08, 2019		Soil	S19-Ja02892	X					X	X	
4	BH04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02893			X			X		
5	BH06_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02894	X					X	X	
6	BH06_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02895			X			X		X	
7	BH08_0-0.1	Jan 08, 2019		Soil	S19-Ja02896	X					X	X	
8	BH08_3.5-3.6	Jan 08, 2019		Soil	S19-Ja02897			X			X		X	
9	BH09_0-0.1	Jan 08, 2019		Soil	S19-Ja02898			X			X		X	

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	BH09_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02899	X					X	X		
11	BH09_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02900			X			X		X	
12	HA01_0-0.1	Jan 08, 2019		Soil	S19-Ja02901	X				X	X	X		
13	QC-01	Jan 08, 2019		Soil	S19-Ja02902	X				X	X	X		
14	HA01_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02903			X			X			
15	HA02_0-0.1	Jan 08, 2019		Soil	S19-Ja02904			X			X		X	
16	HA02_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02905	X					X	X		
17	HA03_0-0.1	Jan 08, 2019		Soil	S19-Ja02906			X			X		X	
18	HA03_0.9-1.0	Jan 08, 2019		Soil	S19-Ja02907	X					X	X		
19	HA04_0-0.1	Jan 08, 2019		Soil	S19-Ja02908	X					X	X		
20	HA04_1.4-1.5	Jan 08, 2019		Soil	S19-Ja02909			X			X		X	
21	HA05_0-0.1	Jan 08, 2019		Soil	S19-Ja02910			X			X			

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
22	HA05_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02911	X					X	X		
23	BH03_0-0.1	Jan 09, 2019		Soil	S19-Ja02912			X			X		X	
24	BH03_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02913	X					X	X		
25	BH10_0-0.1	Jan 09, 2019		Soil	S19-Ja02914	X					X	X		
26	BH10_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02915			X			X			
27	BH07_0-0.1	Jan 09, 2019		Soil	S19-Ja02916	X					X	X		
28	BH07_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02917			X			X			
29	BH07_4.0-4.1	Jan 09, 2019		Soil	S19-Ja02918	X				X	X	X		
30	RIN	Jan 09, 2019		Water	S19-Ja02919									X
31	BH04_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02933		X							
32	BH04_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02934		X							
33	BH06_0-0.1	Jan 08, 2019		Soil	S19-Ja02935		X							

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
34	BH06_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02936		X							
35	BH06_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02937		X							
36	BH06_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02938		X							
37	BH08_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02939		X							
38	BH08_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02940		X							
39	BH08_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02941		X							
40	BH08_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02942		X							
41	BH08_2.5-2.6	Jan 08, 2019		Soil	S19-Ja02943		X							
42	BH08_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02944		X							
43	BH08_4.0-4.1	Jan 08, 2019		Soil	S19-Ja02945		X							
44	BH08_4.5-4.6	Jan 08, 2019		Soil	S19-Ja02946		X							
45	BH09_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02947		X							

eurofins | mgt

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
46	BH09_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02948		X							
47	BH09_2.0-2.1	Jan 08, 2019		Soil	S19-Ja02949		X							
48	BH09_3.0-3.1	Jan 08, 2019		Soil	S19-Ja02950		X							
49	HA01_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02951		X							
50	HA03_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02952		X							
51	HA03_1.5-1.6	Jan 08, 2019		Soil	S19-Ja02953		X							
52	HA04_0.4-0.5	Jan 08, 2019		Soil	S19-Ja02954		X							
53	HA04_1.0-1.1	Jan 08, 2019		Soil	S19-Ja02955		X							
54	HA05_0.3-0.4	Jan 08, 2019		Soil	S19-Ja02956		X							
55	BH03_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02957		X							
56	BH03_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02958		X							
57	BH03_1.5-1.6	Jan 09, 2019		Soil	S19-Ja02959		X							

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

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

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

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

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 635079
Phone: 02 8245 0300
Fax:

Received: Jan 9, 2019 1:58 PM
Due: Jan 16, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Eurofins | mgt Suite B13	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X				X		X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
58	BH03_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02960		X							
59	BH03_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02961		X							
60	BH10_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02962		X							
61	BH07_0.3-0.4	Jan 09, 2019		Soil	S19-Ja02963		X							
62	BH07_1.0-1.1	Jan 09, 2019		Soil	S19-Ja02964		X							
63	BH07_2.0-2.1	Jan 09, 2019		Soil	S19-Ja02965		X							
64	BH07_2.5-2.6	Jan 09, 2019		Soil	S19-Ja02966		X							
65	BH07_3.0-3.1	Jan 09, 2019		Soil	S19-Ja02967		X							
Test Counts						14	35	13	2	3	27	14	8	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, April 2011 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. 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 5.2 2018
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.2 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.

eurofins | mgt

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	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
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							
Heavy Metals							
Arsenic	%	93			70-130	Pass	
Cadmium	%	93			70-130	Pass	
Chromium	%	96			70-130	Pass	
Copper	%	97			70-130	Pass	
Lead	%	97			70-130	Pass	
Mercury	%	96			70-130	Pass	
Nickel	%	96			70-130	Pass	
Zinc	%	96			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			
Arsenic	S19-Ja04205	NCP	mg/L	0.006	0.007	2.0	30%	Pass	
Cadmium	S19-Ja04205	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S19-Ja04205	NCP	mg/L	0.001	0.001	5.0	30%	Pass	
Copper	S19-Ja04205	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	S19-Ja04205	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S19-Ja04205	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S19-Ja04205	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S19-Ja04205	NCP	mg/L	0.039	0.038	4.0	30%	Pass	

Comments

Eurofins | mgt accreditation number 1261, corporate site 1254 and 14271 is currently in progress of a controlled transition to a new custom built location at 6 Monterey Road, Dandenong South, Victoria 3175. All results on this report denoted as being performed by Eurofins | mgt 2-5 Kingston Town Close, Oakleigh Victoria 3166 corporate site 1254, will have been performed on either Oakleigh or new Dandenong South site.

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

Nibha Vaidya	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Harry Bacalis	Senior Analyst-Volatile (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 1/4

CHAIN OF CUSTODY

JBS&G

PROJECT NO. J5764
PROJECT NAME: Kambalda
DATE NEEDED BY: Std

LABORATORY BATCH NO.:
SAMPLERS: JC/RG/ML/GB
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) gblack@jbsg.com.au; (3) jcranson@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

635079

	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Heavy Metals	PAHs	TRH/BTEX	OCPs/PCBs	BTEX	Asbestos	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
	TS/TB	~~Soil~~/Water	8/1/19		4x Vial						X				
3	BH04_0-0.1	Soil			J+B+Ice		X	X	X			X			
	" 0.3-0.4														
4	" 1.0-1.1						X								
	" 1.5-1.6														
	BH06_0-0.1														
	0.3-0.4						X	X	X			X			
	1.5-1.6				Jar + Ice										
	2.0-2.1				J+B+Ice										
	2.5-2.6														
6	3.0-3.1						X		X						
	BH08_0-0.1				J+B+Ice		X	X	X			X			
	0.3-0.4														
	1.0-1.1														
	1.5-1.6														
	2.0-2.1														
	2.5-2.6														
	3.0-3.1														
	3.5-3.6						X		X						

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [signature] DATE: 8/1/19	CONSIGNMENT NOTE NO.	NAME: Elvis D	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 9/1/19	COOLER TEMP 11.83 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

Euro 2/4

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 55769 | LABORATORY BATCH NO.:

PROJECT NAME: Kambala | SAMPLERS: JC/~~RG~~/~~ML~~/~~GB~~

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

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

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

635079

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	~~Asbestos~~	HM	PAHs	TRH/BTEX	OCPs/PCBs	Asbestos	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH08 - 4.0-4.1	Soil	8.1.19		J + B + Ice										
" - 4.5-4.6														
BH04 - 0-0.1							X		X					
- 0.3-0.4														
- 1.0-1.1														
- 1.5-1.6							X	X	X		X			
- 2.0-2.1														
- 3.0-3.1														
- 4.0-4.1							X		X					
HA01 - 0-0.1							X	X	X	X	X			
QA-01							Please Forward to Envirolab							
QC-01							X	X	X	X	X			
HA01 - 0.3-0.4														
" - 0.9-1.0							X							
HA02 - 0-0.1							X		X					
" - 0.4-0.5							X	X	X		X			
HA03 - 0-0.1							X		X					
- 0.4-0.5														
- 0.9-1.0							X	X	X		X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [redacted] DATE: 8.1.19	CONSIGNMENT NOTE NO.	NAME: Elvis	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 9/1/19	
		OF: Eurofins	COOLER TEMP 1.8.3 ..... 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

Euro 3/4

CHAIN OF CUSTODY

JBS&G

PROJECT NO: 55769
PROJECT NAME: Kambala
DATE NEEDED BY: Std

LABORATORY BATCH NO.:
SAMPLERS: JC/RG/ML/GB
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) gblack@jbsg.com.au; (3) jcranson@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

635079

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	Heavy Metals	PAHs	TRH/BTEX	OCP/PCBs	ASS SPOCAS	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
HA03_1.5-1.6	Soil	8.1.19		J+ B + Ice										
HA04_0-0.1							x	x	x		x			
_0.4-0.5														
_1.0-1.1														
_1.4-1.5							x		x					
HA05_0-0.1							x							
_0.3-0.4														
_1.0-1.1							x	x	x		x			
BH03_0-0.1		9.1.19					x		x					
_0.3-0.4														
_1.0-1.1														
_1.5-1.6														
_2.0-2.1														
_2.5-2.6							x	x	x		x			
_3.0-3.1														
BH10_0-0.1							x	x	x		x			
_0.3-0.4														
_1.0-1.1							x							

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [signature] DATE: 8.1.19	CONSIGNMENT NOTE NO.	NAME: Elyse	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 9/1/19	COOLER TEMP 1183 ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	NAME: DATE:	COOLER TEMP ..... deg C
		OF:	

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

Euro 4/4

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 55769
PROJECT NAME: Kanbalm t
DATE NEEDED BY: Std

LABORATORY BATCH NO.:
SAMPLERS: JC/~~RG/ML/GB~~
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) gblack@jbsg.com.au; (3) jcranson@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

635079

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	PAHs	TRH/BTEX	OCPs/PCBs	ASBESTOS	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH07_0.0-0.1	Soil	9.1.19		J+B + Ice		x	x	x		+			
-0.3-0.4													
-1.0-1.1													
-1.5-1.6						x							
-2.0-2.1													
-2.5-2.6													
-3.0-3.1													
-4.0-4.1						x	x	x	x	x			
RIN	Water	"		2x Vial, 1x amb, 1x HM + Ice		x	x	x	x				

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [redacted] DATE: 9.1.18 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: Elvis DATE: 9.1.19 OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP 11.83 deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

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

eurofins | mgt

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

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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**

Contact name: George Black
Project name: KAMBALA
Project ID: 55769
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Jan 21, 2019 3:49 PM
Eurofins | mgt reference: **636837**

Sample information

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

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

Nibha Vaidya on Phone : +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

Note: A copy of these results will also be delivered to the general JBS & G Australia (NSW) P/L email address.

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

Attention: **George Black**

Report **636837-L**
Project name KAMBALA
Project ID 55769
Received Date Jan 21, 2019

Client Sample ID			**HA01_0-0.1**	**HA02_0-0.1**	**BH07_4.0-4.1**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**
Eurofins | mgt Sample No.			**M19-Ja16438**	**M19-Ja16439**	**M19-Ja16440**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**	**Jan 08, 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	%	52	-	57
p-Terphenyl-d14 (surr.)	1	%	82	-	72
Heavy Metals					
Lead	0.01	mg/L	0.07	0.03	-
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	5.7	5.0	6.1
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	4.9	4.8	4.8
pH (USA HCl addition)	0.1	pH Units	1.6	n/a	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	Jan 23, 2019	7 Day
- Method:			
Heavy Metals	Melbourne	Jan 22, 2019	180 Day
- Method:			

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 636837
Phone: 02 8245 0300
Fax:

Received: Jan 21, 2019 3:49 PM
Due: Jan 29, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Moisture Set
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	HA01_0.9-1.0	Jan 08, 2019		Soil	M19-Ja16436		X		X
2	BH07-1.5-1.6	Jan 08, 2019		Soil	M19-Ja16437		X		X
3	HA01_0-0.1	Jan 08, 2019		US Leachate	M19-Ja16438	X	X	X	
4	HA02_0-0.1	Jan 08, 2019		US Leachate	M19-Ja16439	X		X	
5	BH07_4.0-4.1	Jan 08, 2019		US Leachate	M19-Ja16440		X	X	
Test Counts						2	4	3	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, April 2011 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. 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 5.2 2018
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.2 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									
Lead			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-Ja13191	NCP	%	92			75-125	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	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M18-No38234	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M19-Ja13191	NCP	mg/L	0.02	0.02	1.0	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
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)
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.

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

Attention: **George Black**

Report **636837-S**
Project name KAMBALA
Project ID 55769
Received Date Jan 21, 2019

Client Sample ID			**HA01_0.9-1.0**	**BH07-1.5-1.6**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M19-Ja16436**	**M19-Ja16437**
Date Sampled			**Jan 08, 2019**	**Jan 08, 2019**
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	13	25
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	13	25
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	13	25
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	2.0	1.5
Benz(a)anthracene	0.5	mg/kg	8.9	12
Benzo(a)pyrene	0.5	mg/kg	9.0	18
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	6.3	13
Benzo(g.h.i)perylene	0.5	mg/kg	3.6	10
Benzo(k)fluoranthene	0.5	mg/kg	7.8	15
Chrysene	0.5	mg/kg	8.2	17
Dibenz(a.h)anthracene	0.5	mg/kg	1.5	1.2
Fluoranthene	0.5	mg/kg	17	31
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	5.3	12
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	8.2	10
Pyrene	0.5	mg/kg	17	33
Total PAH*	0.5	mg/kg	94.8	173.7
2-Fluorobiphenyl (surr.)	1	%	98	89
p-Terphenyl-d14 (surr.)	1	%	131	78
% Moisture	1	%	14	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 (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	Jan 22, 2019	14 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Melbourne	Jan 22, 2019	14 Day
- Method: LTM-GEN-7080 Moisture			

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: KAMBALA
Project ID: 55769

Order No.:
Report #: 636837
Phone: 02 8245 0300
Fax:

Received: Jan 21, 2019 3:49 PM
Due: Jan 29, 2019
Priority: 5 Day
Contact Name: George Black

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail						Lead	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Moisture Set
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	HA01_0.9-1.0	Jan 08, 2019		Soil	M19-Ja16436		X		X
2	BH07-1.5-1.6	Jan 08, 2019		Soil	M19-Ja16437		X		X
3	HA01_0-0.1	Jan 08, 2019		US Leachate	M19-Ja16438	X	X	X	
4	HA02_0-0.1	Jan 08, 2019		US Leachate	M19-Ja16439	X		X	
5	BH07_4.0-4.1	Jan 08, 2019		US Leachate	M19-Ja16440		X	X	
Test Counts						2	4	3	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, April 2011 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. 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 5.2 2018
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.2 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.

eurofins | mgt

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	81			70-130	Pass	
Anthracene	%	81			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(a)pyrene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	103			70-130	Pass	
Benzo(k)fluoranthene	%	80			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	111			70-130	Pass	
Fluoranthene	%	76			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	113			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	85			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M19-Ja10070	NCP	%	111			70-130	Pass	
Acenaphthylene	M19-Ja10070	NCP	%	101			70-130	Pass	
Anthracene	M19-Ja10070	NCP	%	76			70-130	Pass	
Benz(a)anthracene	M19-Ja10070	NCP	%	95			70-130	Pass	
Benzo(a)pyrene	M19-Ja10070	NCP	%	94			70-130	Pass	
Benzo(b&j)fluoranthene	M19-Ja10070	NCP	%	95			70-130	Pass	
Benzo(g.h.i)perylene	M19-Ja10070	NCP	%	118			70-130	Pass	
Benzo(k)fluoranthene	M19-Ja10070	NCP	%	91			70-130	Pass	
Chrysene	M19-Ja10070	NCP	%	124			70-130	Pass	
Dibenz(a.h)anthracene	M19-Ja10070	NCP	%	96			70-130	Pass	
Fluoranthene	M19-Ja10070	NCP	%	75			70-130	Pass	
Fluorene	M19-Ja10070	NCP	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	M19-Ja10070	NCP	%	92			70-130	Pass	
Naphthalene	M19-Ja10070	NCP	%	121			70-130	Pass	
Phenanthrene	M19-Ja10070	NCP	%	91			70-130	Pass	
Pyrene	M19-Ja10070	NCP	%	80			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-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-Ja10069	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M19-Ja16437	CP	%	10	11	5.0	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
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
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.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	George Black, Joshua Cranson

Sample Login Details

Your reference	55769, Kembla
Envirolab Reference	209223
Date Sample Received	10/01/2019
Date Instructions Received	10/01/2019
Date Results Expected to be Reported	17/01/2019

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	9.3
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticidesin soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001
QA-01	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 209223

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	George Black, Joshua Cranson
Address	Level 1, 50 Margaret St, Sydney, NSW, 2000

Sample Details

Your Reference	**55769, Kembla**
Number of Samples	1 Soil
Date samples received	10/01/2019
Date completed instructions received	10/01/2019

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	17/01/2019
Date of Issue	16/01/2019

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Aida Marner
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Jeremy Faircloth, Organics Supervisor
Long Pham, Team Leader, Metals
Lucy Zhu, Asbestos Analyst
Steven Luong, Senior Chemist

Authorised By

Jacinta Hurst, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date extracted	-	11/01/2019
Date analysed	-	14/01/2019
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	74

svTRH (C10-C40) in Soil		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date extracted	-	11/01/2019
Date analysed	-	11/01/2019
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	170
TRH C_{29} - C_{36}	mg/kg	340
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	420
TRH >C_{34} -C_{40}	mg/kg	220
Total +ve TRH (>C10-C40)	mg/kg	640
Surrogate o-Terphenyl	%	74

PAHs in Soil		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date extracted	-	11/01/2019
Date analysed	-	14/01/2019
Naphthalene	mg/kg	0.1
Acenaphthylene	mg/kg	0.5
Acenaphthene	mg/kg	0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	1.9
Anthracene	mg/kg	0.7
Fluoranthene	mg/kg	4.7
Pyrene	mg/kg	4.9
Benzo(a)anthracene	mg/kg	3.5
Chrysene	mg/kg	3.5
Benzo(b,j+k)fluoranthene	mg/kg	7.5
Benzo(a)pyrene	mg/kg	4.8
Indeno(1,2,3-c,d)pyrene	mg/kg	2.4
Dibenzo(a,h)anthracene	mg/kg	0.7
Benzo(g,h,i)perylene	mg/kg	3.0
Total +ve PAH's	mg/kg	38
Benzo(a)pyrene TEQ calc (zero)	mg/kg	6.9
Benzo(a)pyrene TEQ calc(half)	mg/kg	6.9
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	6.9
Surrogate p-Terphenyl-d14	%	99

Organochlorine Pesticides in soil		
Our Reference	UNITS	209223-1
Your Reference		QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date extracted	-	11/01/2019
Date analysed	-	11/01/2019
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	78

PCBs in Soil		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date extracted	-	11/01/2019
Date analysed	-	11/01/2019
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCLMX	%	78

Acid Extractable metals in soil		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date prepared	-	11/01/2019
Date analysed	-	11/01/2019
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	8
Copper	mg/kg	59
Lead	mg/kg	290
Mercury	mg/kg	0.1
Nickel	mg/kg	4
Zinc	mg/kg	550

Moisture		
Our Reference		209223-1
Your Reference	UNITS	QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date prepared	-	11/01/2019
Date analysed	-	14/01/2019
Moisture	%	30

Asbestos ID - soils NEPM - ASB-001		
Our Reference	UNITS	209223-1
Your Reference		QA-01
Date Sampled		08/01/2019
Type of sample		Soil
Date analysed	-	16/01/2019
Sample mass tested	g	346.57
Sample Description	-	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos#1	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-012	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			14/01/2019	[NT]	[NT]	[NT]	[NT]	14/01/2019	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	94	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	94	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	92	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	98	[NT]	[NT]	[NT]	[NT]	79	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	111	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	84	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	111	[NT]
Surrogate o-Terphenyl	%		Org-003	74	[NT]	[NT]	[NT]	[NT]	83	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			14/01/2019	[NT]	[NT]	[NT]	[NT]	14/01/2019	[NT]
Naphthalene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Phenanthrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	[NT]	[NT]	[NT]	[NT]	107	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	102	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	117	[NT]
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-005	90	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCLMX	%		Org-006	90	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Date analysed	-			11/01/2019	[NT]	[NT]	[NT]	[NT]	11/01/2019	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

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

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Note: All samples analysed as received. However, sample 209223-1 was below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

Enviroab

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 55769
PROJECT NAME: Kanbala
DATE NEEDED BY: Std

LABORATORY BATCH NO.:
SAMPLERS: JC ~~/RG/ML/GB~~
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) gblack@jbsg.com.au; (3) jcranson@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	PAH's	TRH/BTEX	OCP/PCB's	B TEX	ASBESTOS	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
1 QA-01	Soil	8.1.19		J + B + Ice		x	x	x	x		x			

PLEASE SEND TO ENVIROLAB.

ENVIROLAB

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

Job No: 209223
Date Received: 10/01/19
Time Received: 12:45
Received by: MT
Temp: Cool/Ambient 9.3
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 8.1.19	CONSIGNMENT NOTE NO.	NAME: Elvis	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 9.1.19	COOLER TEMP 11.83 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	NAME: Ming Han Zo DATE: 10/01/19 OF: ES	COOLER TEMP 9.3 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

eurofins | Environment Testing

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

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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**

Contact name: George Black
Project name: KAMBALA
Project ID: 58081
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Apr 8, 2020 5:48 PM
Eurofins reference: **713049**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.4 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☑ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

QC20200407-1 sent to Envirolab for analysis.

Contact notes

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

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

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

NATA Accredited
Accreditation Number 1261
Site Number

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: **George Black**

Report **713049-S**
Project name KAMBALA
Project ID 58081
Received Date Apr 08, 2020

Client Sample ID			**HA06 0-0.1**	**HA07 0.2-0.3**	**HA08 0.2-0.3**	**HA09 0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**W20-Ap13924**	**W20-Ap13925**	**W20-Ap13926**	**W20-Ap13927**
Date Sampled			**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**
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	30	< 20	38	< 20
TRH C15-C28	50	mg/kg	650	250	360	190
TRH C29-C36	50	mg/kg	540	300	310	240
TRH C10-C36 (Total)	50	mg/kg	1220	550	708	430
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	%	127	107	137	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Comments			G01			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	16	3.0	8.8	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	19	3.3	8.8	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	22	3.5	8.8	1.4
Acenaphthene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 5	< 0.5	0.6	< 0.5
Anthracene	0.5	mg/kg	< 5	< 0.5	1.1	< 0.5
Benz(a)anthracene	0.5	mg/kg	8.4	2.1	5.6	0.6
Benzo(a)pyrene	0.5	mg/kg	13	2.3	5.6	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	11	2.4	5.5	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	< 10	1.1	3.3	0.6
Benzo(k)fluoranthene	0.5	mg/kg	12	1.6	3.5	< 0.5
Chrysene	0.5	mg/kg	9.0	1.7	4.5	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 5	< 0.5	1.4	< 0.5
Fluoranthene	0.5	mg/kg	9.6	3.2	9.1	0.8
Fluorene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5

Client Sample ID			HA06 0-0.1	HA07 0.2-0.3	HA08 0.2-0.3	HA09 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13924	W20-Ap13925	W20-Ap13926	W20-Ap13927
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 10	1.1	3.1	< 0.5
Naphthalene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 5	1.1	4.3	< 0.5
Pyrene	0.5	mg/kg	11	3.1	9.0	1.0
Total PAH*	0.5	mg/kg	74	19.7	56.6	4.9
2-Fluorobiphenyl (surr.)	1	%	95	58	64	54
p-Terphenyl-d14 (surr.)	1	%	106	90	91	96
Organochlorine Pesticides						
Comments			G01			
Chlordanes - Total	0.1	mg/kg	< 1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.5	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.5	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.5	-	-	-
a-BHC	0.05	mg/kg	< 0.5	-	-	-
Aldrin	0.05	mg/kg	< 0.5	-	-	-
b-BHC	0.05	mg/kg	< 0.5	-	-	-
d-BHC	0.05	mg/kg	< 0.5	-	-	-
Dieldrin	0.05	mg/kg	< 0.5	-	-	-
Endosulfan I	0.05	mg/kg	< 0.5	-	-	-
Endosulfan II	0.05	mg/kg	< 0.5	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.5	-	-	-
Endrin	0.05	mg/kg	< 0.5	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.5	-	-	-
Endrin ketone	0.05	mg/kg	< 0.5	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.5	-	-	-
Heptachlor	0.05	mg/kg	< 0.5	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.5	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.5	-	-	-
Methoxychlor	0.2	mg/kg	< 0.5	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Dibutylchlorendate (surr.)	1	%	143	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	114	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1000	460	580	360
TRH >C34-C40	100	mg/kg	290	190	190	170
TRH >C10-C40 (total)*	100	mg/kg	1290	650	770	530
Metals M8						
Arsenic	2	mg/kg	5.2	3.6	2.8	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.5
Chromium	5	mg/kg	9.5	7.3	7.4	9.1
Copper	5	mg/kg	43	65	30	48
Lead	5	mg/kg	170	140	95	80
Mercury	0.1	mg/kg	0.1	0.1	< 0.1	0.2
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	240	860	300	1000

Client Sample ID			HA06 0-0.1	HA07 0.2-0.3	HA08 0.2-0.3	HA09 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13924	W20-Ap13925	W20-Ap13926	W20-Ap13927
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	15	38	28	45

Client Sample ID			HA10 0-0.1	HA11 0.4-0.5	HA12 0-0.1	QA20200407-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13928	W20-Ap13929	W20-Ap13930	W20-Ap13934
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
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	72	65	92	360
TRH C29-C36	50	mg/kg	64	59	63	300
TRH C10-C36 (Total)	50	mg/kg	136	124	155	660
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	%	112	120	142	116
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Comments						G01
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.9	< 1	< 5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.2	1.5	6.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.5	2.0	12
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.8	0.8	< 5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.7	0.7	< 5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	0.7	0.6	< 5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.5	0.8	< 5
Chrysene	0.5	mg/kg	< 0.5	0.6	0.7	< 5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Fluoranthene	0.5	mg/kg	< 0.5	1.5	1.8	7.0
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Phenanthrene	0.5	mg/kg	< 0.5	1.4	1.4	< 5
Pyrene	0.5	mg/kg	< 0.5	1.4	1.6	7.7
Total PAH*	0.5	mg/kg	< 0.5	7.6	8.4	14.7

Client Sample ID			HA10 0-0.1	HA11 0.4-0.5	HA12 0-0.1	QA20200407-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13928	W20-Ap13929	W20-Ap13930	W20-Ap13934
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	64	55	64	55
p-Terphenyl-d14 (surr.)	1	%	87	90	108	92
Organochlorine Pesticides						
Comments						G01
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.5
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.5
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.5
a-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.5
b-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
d-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.5
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.5
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.5
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.5
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.5
Methoxychlor	0.2	mg/kg	-	-	< 0.2	< 0.5
Toxaphene	1	mg/kg	-	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 1
Dibutylchlorendate (surr.)	1	%	-	-	130	INT
Tetrachloro-m-xylene (surr.)	1	%	-	-	123	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	110	110	130	570
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	190
TRH >C10-C40 (total)*	100	mg/kg	110	110	130	760
Metals M8						
Arsenic	2	mg/kg	2.7	< 2	< 2	3.2
Cadmium	0.4	mg/kg	< 0.4	0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.4	6.4	< 5	7.6
Copper	5	mg/kg	5.8	< 5	5.2	60
Lead	5	mg/kg	17	50	35	220
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1
Nickel	5	mg/kg	< 5	6.5	< 5	< 5
Zinc	5	mg/kg	120	210	67	400
% Moisture	1	%	14	7.3	8.8	28

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	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 15, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 15, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Apr 09, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	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.

Quality Control Results

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

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Metals M8							
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	%	96			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	106			70-130	Pass	
Ethylbenzene	%	110			70-130	Pass	
m&p-Xylenes	%	111			70-130	Pass	
o-Xylene	%	110			70-130	Pass	
Xylenes - Total*	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	124			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	108			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	123			70-130	Pass	
Benz(a)anthracene	%	114			70-130	Pass	
Benzo(a)pyrene	%	127			70-130	Pass	
Benzo(b&j)fluoranthene	%	109			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	104			70-130	Pass	
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	113			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	109			70-130	Pass	
Naphthalene	%	109			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	%	111			70-130	Pass	
Pyrene	%	102			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	98			70-130	Pass	
4.4'-DDD	%	103			70-130	Pass	
4.4'-DDE	%	98			70-130	Pass	
4.4'-DDT	%	99			70-130	Pass	
a-BHC	%	108			70-130	Pass	
Aldrin	%	104			70-130	Pass	
b-BHC	%	99			70-130	Pass	
d-BHC	%	95			70-130	Pass	
Dieldrin	%	111			70-130	Pass	
Endosulfan I	%	104			70-130	Pass	
Endosulfan II	%	104			70-130	Pass	
Endosulfan sulphate	%	94			70-130	Pass	
Endrin	%	91			70-130	Pass	
Endrin aldehyde	%	103			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-BHC (Lindane)	%	98			70-130	Pass	
Heptachlor	%	99			70-130	Pass	
Heptachlor epoxide	%	100			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
Metals M8							
Arsenic	%	90			70-130	Pass	
Cadmium	%	90			70-130	Pass	
Chromium	%	83			70-130	Pass	
Copper	%	85			70-130	Pass	
Lead	%	91			70-130	Pass	
Mercury	%	90			70-130	Pass	
Nickel	%	86			70-130	Pass	
Zinc	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Fluoranthene	S20-Ap14206	NCP	%	71			70-130	Pass	
Pyrene	W20-Ap17532	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Ap14206	NCP	%	74			70-130	Pass	
4.4'-DDD	S20-Ap14206	NCP	%	72			70-130	Pass	
4.4'-DDE	S20-Ap14206	NCP	%	86			70-130	Pass	
a-BHC	S20-Ap14206	NCP	%	101			70-130	Pass	
Aldrin	S20-Ap14206	NCP	%	86			70-130	Pass	
b-BHC	S20-Ap14206	NCP	%	95			70-130	Pass	
d-BHC	S20-Ap14206	NCP	%	106			70-130	Pass	
Dieldrin	S20-Ap14206	NCP	%	71			70-130	Pass	
Endosulfan I	S20-Ap14206	NCP	%	87			70-130	Pass	
Endosulfan II	S20-Ap14206	NCP	%	83			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	S20-Ap14206	NCP	%	85			70-130	Pass	
Endrin aldehyde	S20-Ap14206	NCP	%	72			70-130	Pass	
Endrin ketone	S20-Ap14206	NCP	%	78			70-130	Pass	
g-BHC (Lindane)	S20-Ap14206	NCP	%	94			70-130	Pass	
Hexachlorobenzene	S20-Ap14206	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Lead	S20-Ap18728	NCP	%	110			70-130	Pass	
Zinc	S20-Ap18728	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	W20-Ap13925	CP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	W20-Ap13925	CP	%	97			70-130	Pass	
Acenaphthylene	W20-Ap13925	CP	%	94			70-130	Pass	
Anthracene	W20-Ap13925	CP	%	94			70-130	Pass	
Benz(a)anthracene	W20-Ap13925	CP	%	84			70-130	Pass	
Benzo(a)pyrene	W20-Ap13925	CP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	W20-Ap13925	CP	%	81			70-130	Pass	
Benzo(g.h.i)perylene	W20-Ap13925	CP	%	77			70-130	Pass	
Benzo(k)fluoranthene	W20-Ap13925	CP	%	83			70-130	Pass	
Chrysene	W20-Ap13925	CP	%	74			70-130	Pass	
Dibenz(a.h)anthracene	W20-Ap13925	CP	%	124			70-130	Pass	
Fluorene	W20-Ap13925	CP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	W20-Ap13925	CP	%	101			70-130	Pass	
Naphthalene	W20-Ap13925	CP	%	85			70-130	Pass	
Phenanthrene	W20-Ap13925	CP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	W20-Ap13925	CP	%	105			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	W20-Ap13926	CP	%	118			70-130	Pass	
Cadmium	W20-Ap13926	CP	%	113			70-130	Pass	
Chromium	W20-Ap13926	CP	%	111			70-130	Pass	
Copper	W20-Ap13926	CP	%	125			70-130	Pass	
Mercury	W20-Ap13926	CP	%	118			70-130	Pass	
Nickel	W20-Ap13926	CP	%	111			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	W20-Ap13934	CP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	W20-Ap13934	CP	%	93			70-130	Pass	
Toluene	W20-Ap13934	CP	%	98			70-130	Pass	
Ethylbenzene	W20-Ap13934	CP	%	102			70-130	Pass	
m&p-Xylenes	W20-Ap13934	CP	%	102			70-130	Pass	
o-Xylene	W20-Ap13934	CP	%	104			70-130	Pass	
Xylenes - Total*	W20-Ap13934	CP	%	102			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	W20-Ap13934	CP	%	106			70-130	Pass	
TRH C6-C10	W20-Ap13934	CP	%	84			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 C10-C14	W20-Ap13924	CP	mg/kg	30	23	27	30%	Pass	
TRH C15-C28	W20-Ap13924	CP	mg/kg	650	340	63	30%	Fail	Q02
TRH C29-C36	W20-Ap13924	CP	mg/kg	540	280	63	30%	Fail	Q02
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Acenaphthylene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Anthracene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Benz(a)anthracene	W20-Ap13924	CP	mg/kg	8.4	< 5	<1	30%	Pass	
Benzo(a)pyrene	W20-Ap13924	CP	mg/kg	13	< 5	<1	30%	Pass	
Benzo(b&j)fluoranthene	W20-Ap13924	CP	mg/kg	11	< 5	<1	30%	Pass	
Benzo(g.h.i)perylene	W20-Ap13924	CP	mg/kg	< 10	< 5	<1	30%	Pass	
Benzo(k)fluoranthene	W20-Ap13924	CP	mg/kg	12	< 5	<1	30%	Pass	
Chrysene	W20-Ap13924	CP	mg/kg	9.0	< 5	<1	30%	Pass	
Dibenz(a.h)anthracene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoranthene	W20-Ap13924	CP	mg/kg	9.6	6.0	46	30%	Fail	Q15
Fluorene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	W20-Ap13924	CP	mg/kg	< 10	< 5	<1	30%	Pass	
Naphthalene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Phenanthrene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Pyrene	W20-Ap13924	CP	mg/kg	11	6.4	56	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	W20-Ap13924	CP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan I	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-BHC (Lindane)	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	W20-Ap13924	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	W20-Ap13924	CP	mg/kg	1000	530	65	30%	Fail	Q15
TRH >C34-C40	W20-Ap13924	CP	mg/kg	290	180	47	30%	Fail	Q15

Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S20-Ap18861	NCP	mg/kg	9.4	7.3	26	30%	Pass	
Cadmium	S20-Ap18861	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ap18861	NCP	mg/kg	22	15	37	30%	Fail	Q15
Copper	S20-Ap18861	NCP	mg/kg	35	28	24	30%	Pass	
Lead	S20-Ap18861	NCP	mg/kg	79	43	59	30%	Fail	Q15
Mercury	S20-Ap18861	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ap18861	NCP	mg/kg	15	11	26	30%	Pass	
Zinc	S20-Ap18861	NCP	mg/kg	140	110	27	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	W20-Ap13925	CP	%	38	37	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	W20-Ap13930	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	W20-Ap13930	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	W20-Ap13930	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	W20-Ap13930	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	W20-Ap13930	CP	mg/kg	< 20	< 20	<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
G01	The LORs have been raised due to matrix interference
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
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q15	The RPD reported passes Eurofins Environment Testing'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
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
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.

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

Attention:	George Black
Report	713049-AID
Project Name	KAMBALA
Project ID	58081
Received Date	Apr 08, 2020
Date Reported	Apr 17, 2020

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 KAMBALA
Project ID 58081
Date Sampled Apr 07, 2020
Report 713049-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
HA06 0-0.1	20-Ap13924	Apr 07, 2020	Approximate Sample 636g Sample consisted of: Brown fine-grained sandy soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA07 0.2-0.3	20-Ap13925	Apr 07, 2020	Approximate Sample 489g Sample consisted of: Brown fine-grained sandy soil, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA08 0.2-0.3	20-Ap13926	Apr 07, 2020	Approximate Sample 547g Sample consisted of: Brown fine-grained sandy soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA09 0-0.1	20-Ap13927	Apr 07, 2020	Approximate Sample 280g Sample consisted of: Brown fine-grained sandy soil, rocks, glass and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA10 0-0.1	20-Ap13928	Apr 07, 2020	Approximate Sample 577g Sample consisted of: Brown fine-grained sandy soil, bitumen, cement, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA11 0.4-0.5	20-Ap13929	Apr 07, 2020	Approximate Sample 895g Sample consisted of: Brown fine-grained sandy soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
HA12 0-0.1	20-Ap13930	Apr 07, 2020	Approximate Sample 778g Sample consisted of: Brown fine-grained sandy soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
FRAG-01	20-Ap13931	Apr 07, 2020	Approximate Sample 13g / 45x40x4mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
FRAG-02	20-Ap13932	Apr 07, 2020	Approximate Sample 10g / 50x35x4mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.
QA20200407-1	20-Ap13934	Apr 07, 2020	Approximate Sample 521g Sample consisted of: Brown fine-grained sandy soil, rocks, bitumen and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos 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.

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	Apr 09, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 09, 2020	Indefinite

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	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.

Comments

W20-Ap13925 & W20-Ap13927: 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:

Chamath JHM Annakkage	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.

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

Attention: **George Black**

Report **713049-W**
Project name KAMBALA
Project ID 58081
Received Date Apr 08, 2020

Client Sample ID			**RIN01**	[R20]**TS**	**TB**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**W20-Ap13933**	**W20-Ap13935**	**W20-Ap13936**
Date Sampled			**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**
Test/Reference	LOR	Unit			
Naphthalene[N02]	0.01	mg/L	-	100	< 0.01
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	74	< 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-C36 (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	110	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	100	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	95	< 0.002
o-Xylene	0.001	mg/L	< 0.001	110	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	99	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	93	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-
TRH C6-C10	0.02	mg/L	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	-
Total Recoverable Hydrocarbons					
TRH C6-C10	0.02	mg/L	-	72	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	-	< 0.02
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	-	-

Client Sample ID			RIN01	R20TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			W20-Ap13933	W20-Ap13935	W20-Ap13936
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
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	%	87	-	-
p-Terphenyl-d14 (surr.)	1	%	108	-	-
Organochlorine Pesticides					
Chlordanes - Total	0.001	mg/L	< 0.001	-	-
4.4'-DDD	0.0001	mg/L	< 0.0001	-	-
4.4'-DDE	0.0001	mg/L	< 0.0001	-	-
4.4'-DDT	0.0001	mg/L	< 0.0001	-	-
a-BHC	0.0001	mg/L	< 0.0001	-	-
Aldrin	0.0001	mg/L	< 0.0001	-	-
b-BHC	0.0001	mg/L	< 0.0001	-	-
d-BHC	0.0001	mg/L	< 0.0001	-	-
Dieldrin	0.0001	mg/L	< 0.0001	-	-
Endosulfan I	0.0001	mg/L	< 0.0001	-	-
Endosulfan II	0.0001	mg/L	< 0.0001	-	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	-	-
Endrin	0.0001	mg/L	< 0.0001	-	-
Endrin aldehyde	0.0001	mg/L	< 0.0001	-	-
Endrin ketone	0.0001	mg/L	< 0.0001	-	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	-	-
Heptachlor	0.0001	mg/L	< 0.0001	-	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	-	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	-	-
Methoxychlor	0.0001	mg/L	< 0.0001	-	-
Toxaphene	0.01	mg/L	< 0.01	-	-
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	-	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	-	-
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	-	-
Dibutylchlorendate (surr.)	1	%	138	-	-
Tetrachloro-m-xylene (surr.)	1	%	64	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-
Metals M8					
Arsenic	0.001	mg/L	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	-	-
Chromium	0.001	mg/L	< 0.001	-	-
Copper	0.001	mg/L	< 0.001	-	-
Lead	0.001	mg/L	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	-	-
Nickel	0.001	mg/L	< 0.001	-	-
Zinc	0.005	mg/L	< 0.005	-	-

Sample History

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

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	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 14, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 14, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 14, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	2

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							
Naphthalene	mg/L	< 0.01			0.01	Pass	
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							
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Metals M8							
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							
Naphthalene	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	111			70-130	Pass	
TRH C10-C14	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	120			70-130	Pass	
Toluene	%	112			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	105			70-130	Pass	
o-Xylene	%	108			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	84			70-130	Pass	
Acenaphthylene	%	95			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	109			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	88			70-130	Pass	
Dibenz(a.h)anthracene	%	83			70-130	Pass	
Fluoranthene	%	70			70-130	Pass	
Fluorene	%	74			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	72			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	124			70-130	Pass	
4.4'-DDD	%	123			70-130	Pass	
4.4'-DDE	%	127			70-130	Pass	
4.4'-DDT	%	73			70-130	Pass	
a-BHC	%	79			70-130	Pass	
Aldrin	%	119			70-130	Pass	
b-BHC	%	99			70-130	Pass	
d-BHC	%	94			70-130	Pass	
Dieldrin	%	110			70-130	Pass	
Endosulfan I	%	117			70-130	Pass	
Endosulfan II	%	101			70-130	Pass	
Endosulfan sulphate	%	107			70-130	Pass	
Endrin	%	107			70-130	Pass	
Endrin aldehyde	%	72			70-130	Pass	
Endrin ketone	%	94			70-130	Pass	
g-BHC (Lindane)	%	92			70-130	Pass	
Heptachlor	%	117			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	91			70-130	Pass	
LCS - % Recovery							
Metals M8							
Arsenic	%	92			70-130	Pass	
Cadmium	%	96			70-130	Pass	
Chromium	%	96			70-130	Pass	
Copper	%	96			70-130	Pass	
Lead	%	99			70-130	Pass	
Mercury	%	105			70-130	Pass	
Nickel	%	95			70-130	Pass	
Zinc	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Naphthalene	W20-Ap13933	CP	%	105			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-Ap16902	NCP	%	127			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	W20-Ap13933	CP	%	117			70-130	Pass	
Toluene	W20-Ap13933	CP	%	114			70-130	Pass	
Ethylbenzene	W20-Ap13933	CP	%	114			70-130	Pass	
m&p-Xylenes	W20-Ap13933	CP	%	112			70-130	Pass	
o-Xylene	W20-Ap13933	CP	%	114			70-130	Pass	
Xylenes - Total*	W20-Ap13933	CP	%	112			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	S20-Ap16902	NCP	%	125			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S20-Ap16992	NCP	%	101			70-130	Pass	
Cadmium	S20-Ap16992	NCP	%	100			70-130	Pass	
Chromium	S20-Ap16992	NCP	%	96			70-130	Pass	
Copper	S20-Ap16992	NCP	%	95			70-130	Pass	
Lead	S20-Ap16992	NCP	%	95			70-130	Pass	
Mercury	S20-Ap16992	NCP	%	101			70-130	Pass	
Nickel	S20-Ap16992	NCP	%	95			70-130	Pass	
Zinc	S20-Ap16992	NCP	%	96			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Naphthalene	S20-Ap16901	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ap16901	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S20-Ap16901	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S20-Ap16901	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C10	S20-Ap16901	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S20-Ap13873	NCP	mg/L	0.002	0.002	27	30%	Pass	
Cadmium	S20-Ap13873	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S20-Ap13873	NCP	mg/L	0.028	0.028	<1	30%	Pass	
Copper	S20-Ap13873	NCP	mg/L	0.004	0.004	3.0	30%	Pass	
Lead	S20-Ap13873	NCP	mg/L	0.002	0.002	3.0	30%	Pass	
Mercury	S20-Ap13873	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S20-Ap13873	NCP	mg/L	0.004	0.004	7.0	30%	Pass	
Zinc	S20-Ap13873	NCP	mg/L	0.044	0.046	5.0	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
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (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.

015968

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58081
PROJECT NAME: Kemble
DATE NEEDED BY: SD TAT
LABORATORY BATCH NO.:
SAMPLERS: NM
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	Heavy Metals	PAHs	Asbestos	TRH/BTEX	OCPs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/NA	NOTES:
HA06 0-0.1	Soil	7/4		Bag+Jar + Ice		X	X	X	X	X		X	
0.2-0.3													
0.4-0.5													
HA07 0-0.1													
0.2-0.3						X	X	X	X			X	
0.4-0.5													
HA08 0-0.1													
0.2-0.3						X	X	X	X			X	
HA09 0-0.1						X	X	X	X			X	
0.2-0.3						X	X	X	X			X	
HA10 0-0.1						X	X	X	X				
0.2-0.3													
0.4-0.5													
HA11 0-0.1													
0.2-0.3						[illegible]							
0.4-0.5						X	X	X	X			X	
0.9-1.0													
HA12 0-0.1						X	X	X	X	X		X	
0.2-0.3													

RELINQUISHED BY:
NAME: Nic Merritt DATE: 8/4/20
OF: JBS&G
NAME: DATE:
OF:

METHOD OF SHIPMENT:
CONSIGNMENT NOTE NO.
TRANSPORT CO.
CONSIGNMENT NOTE NO.
TRANSPORT CO

RECEIVED BY:
NAME: Vis D
DATE: 8/4/20
OF: Eurofins
NAME: DATE:
OF:

FOR RECEIVING LAB USE ONLY:
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP 10.1 deg C
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C

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

IMSO FormsO13 – Chain of Custody – Generic

015969

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58081
PROJECT NAME: Kambala
DATE NEEDED BY: STD TAT
LABORATORY BATCH NO.:
SAMPLERS: NM
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) ...gbleach.....@jbsg.com.au; (3) ...nmorris.....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Heavy Metals	PAHs	Asbestos	TRH/BTEX	OCPs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
Frag - 01	Frag	7/4		Frag				X			X		
Frag - 02	Frag							X			X		
RIN 01	Water			1x Amber, 1x Metal, 4x vials		X	X		X	X			— Please forward to envirolab
QA 20200407-1	Soil			Bag + Jar + Ice		X	X	X	X	X		X	
QC 20200407-1	Soil					X	X	X	X	X		X	
TS	Water			4.2x vials					X				
TB	Water								X				

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Nic Morris DATE: 8/4/20	CONSIGNMENT NOTE NO.	NAME: Elvis D	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 8/4/20	COOLER TEMP 10.4 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

IMSO Forms013 – Chain of Custody - Generic

eurofins | Environment Testing

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

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

Sample Receipt Advice

Company name:	**JBS & G Australia (NSW) P/L**
Contact name:	George Black
Project name:	ADDITIONAL - KAMBALA
Project ID:	58081
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Apr 20, 2020 7:51 AM
Eurofins reference:	**714502**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.4 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

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

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: **George Black**

Report **714502-L**
Project name ADDITIONAL - KAMBALA
Project ID 58081
Received Date Apr 20, 2020

Client Sample ID			**HA06 0-0.1**	**HA06 0-0.1**	**HA08 0.2-0.3**	**HA08 0.2-0.3**
Sample Matrix			**US Leachate**	**AUS Leachate - Reagent Water**	**US Leachate**	**AUS Leachate - Reagent Water**
Eurofins Sample No.			**S20-Ap26672**	**S20-Ap26673**	**S20-Ap26674**	**S20-Ap26675**
Date Sampled			**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	0.004	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	0.005	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	140	101	79	70
p-Terphenyl-d14 (surr.)	1	%	100	60	54	50
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	-	4.0	-	4.0
pH (initial)	0.1	pH Units	-	4.8	-	5.5
pH (Leachate fluid)	0.1	pH Units	-	5.0	-	5.0
pH (off)	0.1	pH Units	-	5.1	-	5.3
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	-	1.0	-
pH (initial)	0.1	pH Units	4.8	-	5.5	-
pH (off)	0.1	pH Units	5.1	-	5.0	-
pH (USA HCl addition)	0.1	pH Units	1.7	-	1.7	-

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
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 22, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
AUS Leaching Procedure	Sydney	Apr 22, 2020	7 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
USA Leaching Procedure	Sydney	Apr 22, 2020	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: ADDITIONAL - KAMBALA
Project ID: 58081

Order No.:
Report #: 714502
Phone: 02 8245 0300
Fax:

Received: Apr 20, 2020 7:51 AM
Due: Apr 27, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	USA Leaching Procedure
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	HA06 0-0.1	Apr 07, 2020		US Leachate	S20-Ap26672	X		X
2	HA06 0-0.1	Apr 07, 2020		AUS Leachate - Reagent Water	S20-Ap26673	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		US Leachate	S20-Ap26674	X		X
4	HA08 0.2-0.3	Apr 07, 2020		AUS Leachate - Reagent Water	S20-Ap26675	X	X	
Test Counts						4	2	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.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	116			70-130	Pass	
Anthracene	%	122			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	%	109			70-130	Pass	
Benzo(g.h.i)perylene	%	105			70-130	Pass	
Benzo(k)fluoranthene	%	120			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a.h)anthracene	%	106			70-130	Pass	
Fluoranthene	%	118			70-130	Pass	
Fluorene	%	123			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	106			70-130	Pass	
Naphthalene	%	121			70-130	Pass	
Phenanthrene	%	123			70-130	Pass	
Pyrene	%	120			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-Ap21558	NCP	%	124			70-130	Pass	
Acenaphthylene	S20-Ap21558	NCP	%	126			70-130	Pass	
Anthracene	S20-Ap23819	NCP	%	106			70-130	Pass	
Benz(a)anthracene	S20-Ap21558	NCP	%	109			70-130	Pass	
Benzo(a)pyrene	S20-Ap21558	NCP	%	101			70-130	Pass	
Benzo(b&j)fluoranthene	S20-Ap21558	NCP	%	96			70-130	Pass	
Benzo(g.h.i)perylene	S20-Ap21558	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	S20-Ap21558	NCP	%	108			70-130	Pass	
Chrysene	S20-Ap21558	NCP	%	118			70-130	Pass	
Dibenz(a.h)anthracene	S20-Ap21558	NCP	%	101			70-130	Pass	
Fluoranthene	S20-Ap23819	NCP	%	100			70-130	Pass	
Fluorene	S20-Ap23819	NCP	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	S20-Ap21558	NCP	%	100			70-130	Pass	
Naphthalene	S20-Ap21558	NCP	%	115			70-130	Pass	
Phenanthrene	S20-Ap23819	NCP	%	109			70-130	Pass	
Pyrene	S20-Ap23819	NCP	%	101			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	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S20-Ap21556	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S20-Ap23809	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S20-Ap23809	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
Andrew Sullivan	Senior Analyst-Organic (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.

#AU04_Enviro_Sample_NSW

To: Asim Khan
Subject: RE: 5 DAY TAT Additional AnalysisFW: Eurofins Test Results - Report 713049 : Site KAMBALA

From: George Black <GBlack@jbsg.com.au>
Sent: Monday, 20 April 2020 7:51 AM
To: Asim Khan <AsimKhan@eurofins.com>
Cc: Nicholas Maricic <nmaricic@jbsg.com.au>
Subject: RE: Eurofins Test Results - Report 713049 : Site KAMBALA (58081)

EXTERNAL EMAIL*

Hi Asim,

Can I request the following additional analysis

- TCLP and ASLP PAHs on sample HA06-0-0.1 and HA08 0.2- 0.3

Standard TAT

Kind Regards

From: AsimKhan@eurofins.com <AsimKhan@eurofins.com>
Sent: Friday, April 17, 2020 9:03 PM
To: George Black <GBlack@jbsg.com.au>
Cc: Nicholas Maricic <nmaricic@jbsg.com.au>
Subject: Eurofins Test Results - Report 713049 : Site KAMBALA (58081)

Please find attached results for your project in the subject header.

Kind regards,

Asim Khan

Analytical Services Manager

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8432
Phone : +61 429 051 456
Email : AsimKhan@eurofins.com
Website : www.eurofins.com.au/environmental-testing

EnviroNote 1098 - Melbourne PFAS Accreditation
EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	George Black, N Maricic

Sample Login Details

Your reference	58081, Kambala
Envirolab Reference	240785
Date Sample Received	14/04/2020
Date Instructions Received	14/04/2020
Date Results Expected to be Reported	21/04/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.1
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001
QC 20200407-1	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 240785

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	George Black, N Maricic
Address	Level 1, 50 Margaret St, Sydney, NSW, 2000

Sample Details

Your Reference	**58081, Kambala**
Number of Samples	1 Soil
Date samples received	14/04/2020
Date completed instructions received	14/04/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	21/04/2020
Date of Issue	20/04/2020

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Aida Marner
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Hannah Nguyen, Senior Chemist
Josh Williams, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Ridwan Wijaya, Lab Team Leader
Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date extracted	-	15/04/2020
Date analysed	-	15/04/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	95

svTRH (C10-C40) in Soil		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date extracted	-	15/04/2020
Date analysed	-	17/04/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	210
TRH C_{29} - C_{36}	mg/kg	390
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	460
TRH >C_{34} -C_{40}	mg/kg	370
Total +ve TRH (>C10-C40)	mg/kg	830
Surrogate o-Terphenyl	%	88

PAHs in Soil		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date extracted	-	15/04/2020
Date analysed	-	15/04/2020
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	1.0
Anthracene	mg/kg	0.2
Fluoranthene	mg/kg	3.8
Pyrene	mg/kg	3.8
Benzo(a)anthracene	mg/kg	2.7
Chrysene	mg/kg	1.8
Benzo(b,j+k)fluoranthene	mg/kg	5.1
Benzo(a)pyrene	mg/kg	3.2
Indeno(1,2,3-c,d)pyrene	mg/kg	1.9
Dibenzo(a,h)anthracene	mg/kg	0.7
Benzo(g,h,i)perylene	mg/kg	2.0
Total +ve PAH's	mg/kg	26
Benzo(a)pyrene TEQ calc (zero)	mg/kg	4.9
Benzo(a)pyrene TEQ calc(half)	mg/kg	4.9
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	4.9
Surrogate p-Terphenyl-d14	%	103

Organochlorine Pesticides in soil		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date extracted	-	15/04/2020
Date analysed	-	15/04/2020
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	122

Acid Extractable metals in soil		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date prepared	-	15/04/2020
Date analysed	-	16/04/2020
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	8
Copper	mg/kg	46
Lead	mg/kg	120
Mercury	mg/kg	<0.1
Nickel	mg/kg	5
Zinc	mg/kg	320

Moisture		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date prepared	-	15/04/2020
Date analysed	-	16/04/2020
Moisture	%	24

Asbestos ID - soils NEPM - ASB-001		
Our Reference		240785-1
Your Reference	UNITS	QC 20200407-1
Date Sampled		07/04/2020
Type of sample		Soil
Date analysed	-	17/04/2020
Sample mass tested	g	528.94
Sample Description	-	Brown sandy soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos#1	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS.

Method ID	Methodology Summary
Org-012/017	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS and/or GC-MS/MS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-012/017	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Date analysed	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	90	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	[NT]	[NT]	90	[NT]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	[NT]	[NT]	88	[NT]
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	108	[NT]	[NT]	[NT]	[NT]	105	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Date analysed	-			16/04/2020	[NT]	[NT]	[NT]	[NT]	16/04/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	68	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	68	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate o-Terphenyl	%		Org-003	84	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Date analysed	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Naphthalene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Acenaphthylene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Phenanthrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Pyrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-012/017	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012/017	<0.05	[NT]	[NT]	[NT]	[NT]	90	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012/017	83	[NT]	[NT]	[NT]	[NT]	80	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Date analysed	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
alpha-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
HCB	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
gamma-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	74	[NT]
delta-BHC	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
gamma-Chlordane	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Dieldrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Endrin	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Endosulfan II	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Methoxychlor	mg/kg	0.1	Org-012/017	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-012/017	103	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			15/04/2020	[NT]	[NT]	[NT]	[NT]	15/04/2020	[NT]
Date analysed	-			16/04/2020	[NT]	[NT]	[NT]	[NT]	16/04/2020	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	102	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

015969

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58086	LABORATORY BATCH NO.:
PROJECT NAME: Kamboola	SAMPLERS: NM
DATE NEEDED BY: STD TAT	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) ...gblach.....@jbsg.com.au; (3) ...nmarriott.....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Heavy Metals	PAHs	Asbestos	TRH/BTEX	OCPs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
~~Frag~~ Frag - 01	~~Frag~~ Frag	7/4		Frag				X			X		
Frag - 02	Frag	|	|	|	|			X			X		
RIN 01	Water	|	|	1x Amber, 1x Metal, 4x vials.	|	X	X		X	X			
QA 20200407-1	Soil	|	|	Bag+Jar + Ice	|	X	X	X	X	X			X
QC 20200407-1	Soil	|	|	|	|	X	X	X	X	X	— Please forward to envirolab		X
TB	Water	|	|	4 2x vials	|				X				
TB	Water	|	|	|	|				X				

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

Job No: 240785
Date Received: 14/4/20
Time Received: 1205
Received By: WM
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Nic Marriott DATE: 8/4/20	CONSIGNMENT NOTE NO.	NAME: CHANNI MCY	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 14/4/20 1205	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

eurofins | Environment Testing

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

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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**

Contact name: George Black
Project name: KAMBALA
Project ID: 58081
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Apr 8, 2020 5:48 PM
Eurofins reference: **713049**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 10.4 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☑ Sample containers for volatile analysis received with zero headspace.

☑ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

QC20200407-1 sent to Envirolab for analysis.

Contact notes

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

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

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

NATA Accredited
Accreditation Number 1261
Site Number

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: **George Black**

Report **713049-S**
Project name KAMBALA
Project ID 58081
Received Date Apr 08, 2020

Client Sample ID			**HA06 0-0.1**	**HA07 0.2-0.3**	**HA08 0.2-0.3**	**HA09 0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**W20-Ap13924**	**W20-Ap13925**	**W20-Ap13926**	**W20-Ap13927**
Date Sampled			**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**
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	30	< 20	38	< 20
TRH C15-C28	50	mg/kg	650	250	360	190
TRH C29-C36	50	mg/kg	540	300	310	240
TRH C10-C36 (Total)	50	mg/kg	1220	550	708	430
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	%	127	107	137	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Comments			G01			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	16	3.0	8.8	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	19	3.3	8.8	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	22	3.5	8.8	1.4
Acenaphthene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 5	< 0.5	0.6	< 0.5
Anthracene	0.5	mg/kg	< 5	< 0.5	1.1	< 0.5
Benz(a)anthracene	0.5	mg/kg	8.4	2.1	5.6	0.6
Benzo(a)pyrene	0.5	mg/kg	13	2.3	5.6	0.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	11	2.4	5.5	0.6
Benzo(g.h.i)perylene	0.5	mg/kg	< 10	1.1	3.3	0.6
Benzo(k)fluoranthene	0.5	mg/kg	12	1.6	3.5	< 0.5
Chrysene	0.5	mg/kg	9.0	1.7	4.5	0.6
Dibenz(a.h)anthracene	0.5	mg/kg	< 5	< 0.5	1.4	< 0.5
Fluoranthene	0.5	mg/kg	9.6	3.2	9.1	0.8
Fluorene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5

Client Sample ID			HA06 0-0.1	HA07 0.2-0.3	HA08 0.2-0.3	HA09 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13924	W20-Ap13925	W20-Ap13926	W20-Ap13927
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 10	1.1	3.1	< 0.5
Naphthalene	0.5	mg/kg	< 5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 5	1.1	4.3	< 0.5
Pyrene	0.5	mg/kg	11	3.1	9.0	1.0
Total PAH*	0.5	mg/kg	74	19.7	56.6	4.9
2-Fluorobiphenyl (surr.)	1	%	95	58	64	54
p-Terphenyl-d14 (surr.)	1	%	106	90	91	96
Organochlorine Pesticides						
Comments			G01			
Chlordanes - Total	0.1	mg/kg	< 1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.5	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.5	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.5	-	-	-
a-BHC	0.05	mg/kg	< 0.5	-	-	-
Aldrin	0.05	mg/kg	< 0.5	-	-	-
b-BHC	0.05	mg/kg	< 0.5	-	-	-
d-BHC	0.05	mg/kg	< 0.5	-	-	-
Dieldrin	0.05	mg/kg	< 0.5	-	-	-
Endosulfan I	0.05	mg/kg	< 0.5	-	-	-
Endosulfan II	0.05	mg/kg	< 0.5	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.5	-	-	-
Endrin	0.05	mg/kg	< 0.5	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.5	-	-	-
Endrin ketone	0.05	mg/kg	< 0.5	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.5	-	-	-
Heptachlor	0.05	mg/kg	< 0.5	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.5	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.5	-	-	-
Methoxychlor	0.2	mg/kg	< 0.5	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	-	-	-
Dibutylchlorendate (surr.)	1	%	143	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	114	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	1000	460	580	360
TRH >C34-C40	100	mg/kg	290	190	190	170
TRH >C10-C40 (total)*	100	mg/kg	1290	650	770	530
Metals M8						
Arsenic	2	mg/kg	5.2	3.6	2.8	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.5
Chromium	5	mg/kg	9.5	7.3	7.4	9.1
Copper	5	mg/kg	43	65	30	48
Lead	5	mg/kg	170	140	95	80
Mercury	0.1	mg/kg	0.1	0.1	< 0.1	0.2
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	240	860	300	1000

Client Sample ID			HA06 0-0.1	HA07 0.2-0.3	HA08 0.2-0.3	HA09 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13924	W20-Ap13925	W20-Ap13926	W20-Ap13927
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	15	38	28	45

Client Sample ID			HA10 0-0.1	HA11 0.4-0.5	HA12 0-0.1	QA20200407-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13928	W20-Ap13929	W20-Ap13930	W20-Ap13934
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
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	72	65	92	360
TRH C29-C36	50	mg/kg	64	59	63	300
TRH C10-C36 (Total)	50	mg/kg	136	124	155	660
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	%	112	120	142	116
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Comments						G01
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.9	< 1	< 5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.2	1.5	6.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.5	2.0	12
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.8	0.8	< 5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.7	0.7	< 5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	0.7	0.6	< 5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.5	0.8	< 5
Chrysene	0.5	mg/kg	< 0.5	0.6	0.7	< 5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Fluoranthene	0.5	mg/kg	< 0.5	1.5	1.8	7.0
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 1	< 5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 5
Phenanthrene	0.5	mg/kg	< 0.5	1.4	1.4	< 5
Pyrene	0.5	mg/kg	< 0.5	1.4	1.6	7.7
Total PAH*	0.5	mg/kg	< 0.5	7.6	8.4	14.7

Client Sample ID			HA10 0-0.1	HA11 0.4-0.5	HA12 0-0.1	QA20200407-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			W20-Ap13928	W20-Ap13929	W20-Ap13930	W20-Ap13934
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
2-Fluorobiphenyl (surr.)	1	%	64	55	64	55
p-Terphenyl-d14 (surr.)	1	%	87	90	108	92
Organochlorine Pesticides						
Comments						G01
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 1
4.4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.5
4.4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.5
4.4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.5
a-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.5
b-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
d-BHC	0.05	mg/kg	-	-	< 0.05	< 0.5
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.5
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.5
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.5
g-BHC (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.5
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.5
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.5
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.5
Methoxychlor	0.2	mg/kg	-	-	< 0.2	< 0.5
Toxaphene	1	mg/kg	-	-	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	< 1
Dibutylchlorendate (surr.)	1	%	-	-	130	INT
Tetrachloro-m-xylene (surr.)	1	%	-	-	123	120
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	110	110	130	570
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	190
TRH >C10-C40 (total)*	100	mg/kg	110	110	130	760
Metals M8						
Arsenic	2	mg/kg	2.7	< 2	< 2	3.2
Cadmium	0.4	mg/kg	< 0.4	0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.4	6.4	< 5	7.6
Copper	5	mg/kg	5.8	< 5	5.2	60
Lead	5	mg/kg	17	50	35	220
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1
Nickel	5	mg/kg	< 5	6.5	< 5	< 5
Zinc	5	mg/kg	120	210	67	400
% Moisture	1	%	14	7.3	8.8	28

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	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 15, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 15, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 15, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Apr 09, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	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.

Quality Control Results

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

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Metals M8							
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	%	96			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	106			70-130	Pass	
Ethylbenzene	%	110			70-130	Pass	
m&p-Xylenes	%	111			70-130	Pass	
o-Xylene	%	110			70-130	Pass	
Xylenes - Total*	%	111			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	124			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	108			70-130	Pass	
Acenaphthylene	%	112			70-130	Pass	
Anthracene	%	123			70-130	Pass	
Benz(a)anthracene	%	114			70-130	Pass	
Benzo(a)pyrene	%	127			70-130	Pass	
Benzo(b&j)fluoranthene	%	109			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	104			70-130	Pass	
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	104			70-130	Pass	
Fluorene	%	113			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	109			70-130	Pass	
Naphthalene	%	109			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	%	111			70-130	Pass	
Pyrene	%	102			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	98			70-130	Pass	
4.4'-DDD	%	103			70-130	Pass	
4.4'-DDE	%	98			70-130	Pass	
4.4'-DDT	%	99			70-130	Pass	
a-BHC	%	108			70-130	Pass	
Aldrin	%	104			70-130	Pass	
b-BHC	%	99			70-130	Pass	
d-BHC	%	95			70-130	Pass	
Dieldrin	%	111			70-130	Pass	
Endosulfan I	%	104			70-130	Pass	
Endosulfan II	%	104			70-130	Pass	
Endosulfan sulphate	%	94			70-130	Pass	
Endrin	%	91			70-130	Pass	
Endrin aldehyde	%	103			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-BHC (Lindane)	%	98			70-130	Pass	
Heptachlor	%	99			70-130	Pass	
Heptachlor epoxide	%	100			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	98			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
Metals M8							
Arsenic	%	90			70-130	Pass	
Cadmium	%	90			70-130	Pass	
Chromium	%	83			70-130	Pass	
Copper	%	85			70-130	Pass	
Lead	%	91			70-130	Pass	
Mercury	%	90			70-130	Pass	
Nickel	%	86			70-130	Pass	
Zinc	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Fluoranthene	S20-Ap14206	NCP	%	71			70-130	Pass	
Pyrene	W20-Ap17532	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Ap14206	NCP	%	74			70-130	Pass	
4.4'-DDD	S20-Ap14206	NCP	%	72			70-130	Pass	
4.4'-DDE	S20-Ap14206	NCP	%	86			70-130	Pass	
a-BHC	S20-Ap14206	NCP	%	101			70-130	Pass	
Aldrin	S20-Ap14206	NCP	%	86			70-130	Pass	
b-BHC	S20-Ap14206	NCP	%	95			70-130	Pass	
d-BHC	S20-Ap14206	NCP	%	106			70-130	Pass	
Dieldrin	S20-Ap14206	NCP	%	71			70-130	Pass	
Endosulfan I	S20-Ap14206	NCP	%	87			70-130	Pass	
Endosulfan II	S20-Ap14206	NCP	%	83			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	S20-Ap14206	NCP	%	85			70-130	Pass	
Endrin aldehyde	S20-Ap14206	NCP	%	72			70-130	Pass	
Endrin ketone	S20-Ap14206	NCP	%	78			70-130	Pass	
g-BHC (Lindane)	S20-Ap14206	NCP	%	94			70-130	Pass	
Hexachlorobenzene	S20-Ap14206	NCP	%	103			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Lead	S20-Ap18728	NCP	%	110			70-130	Pass	
Zinc	S20-Ap18728	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	W20-Ap13925	CP	%	104			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	W20-Ap13925	CP	%	97			70-130	Pass	
Acenaphthylene	W20-Ap13925	CP	%	94			70-130	Pass	
Anthracene	W20-Ap13925	CP	%	94			70-130	Pass	
Benz(a)anthracene	W20-Ap13925	CP	%	84			70-130	Pass	
Benzo(a)pyrene	W20-Ap13925	CP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	W20-Ap13925	CP	%	81			70-130	Pass	
Benzo(g.h.i)perylene	W20-Ap13925	CP	%	77			70-130	Pass	
Benzo(k)fluoranthene	W20-Ap13925	CP	%	83			70-130	Pass	
Chrysene	W20-Ap13925	CP	%	74			70-130	Pass	
Dibenz(a.h)anthracene	W20-Ap13925	CP	%	124			70-130	Pass	
Fluorene	W20-Ap13925	CP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	W20-Ap13925	CP	%	101			70-130	Pass	
Naphthalene	W20-Ap13925	CP	%	85			70-130	Pass	
Phenanthrene	W20-Ap13925	CP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	W20-Ap13925	CP	%	105			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	W20-Ap13926	CP	%	118			70-130	Pass	
Cadmium	W20-Ap13926	CP	%	113			70-130	Pass	
Chromium	W20-Ap13926	CP	%	111			70-130	Pass	
Copper	W20-Ap13926	CP	%	125			70-130	Pass	
Mercury	W20-Ap13926	CP	%	118			70-130	Pass	
Nickel	W20-Ap13926	CP	%	111			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	W20-Ap13934	CP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	W20-Ap13934	CP	%	93			70-130	Pass	
Toluene	W20-Ap13934	CP	%	98			70-130	Pass	
Ethylbenzene	W20-Ap13934	CP	%	102			70-130	Pass	
m&p-Xylenes	W20-Ap13934	CP	%	102			70-130	Pass	
o-Xylene	W20-Ap13934	CP	%	104			70-130	Pass	
Xylenes - Total*	W20-Ap13934	CP	%	102			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	W20-Ap13934	CP	%	106			70-130	Pass	
TRH C6-C10	W20-Ap13934	CP	%	84			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 C10-C14	W20-Ap13924	CP	mg/kg	30	23	27	30%	Pass	
TRH C15-C28	W20-Ap13924	CP	mg/kg	650	340	63	30%	Fail	Q02
TRH C29-C36	W20-Ap13924	CP	mg/kg	540	280	63	30%	Fail	Q02
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Acenaphthylene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Anthracene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Benz(a)anthracene	W20-Ap13924	CP	mg/kg	8.4	< 5	<1	30%	Pass	
Benzo(a)pyrene	W20-Ap13924	CP	mg/kg	13	< 5	<1	30%	Pass	
Benzo(b&j)fluoranthene	W20-Ap13924	CP	mg/kg	11	< 5	<1	30%	Pass	
Benzo(g.h.i)perylene	W20-Ap13924	CP	mg/kg	< 10	< 5	<1	30%	Pass	
Benzo(k)fluoranthene	W20-Ap13924	CP	mg/kg	12	< 5	<1	30%	Pass	
Chrysene	W20-Ap13924	CP	mg/kg	9.0	< 5	<1	30%	Pass	
Dibenz(a.h)anthracene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoranthene	W20-Ap13924	CP	mg/kg	9.6	6.0	46	30%	Fail	Q15
Fluorene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	W20-Ap13924	CP	mg/kg	< 10	< 5	<1	30%	Pass	
Naphthalene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Phenanthrene	W20-Ap13924	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Pyrene	W20-Ap13924	CP	mg/kg	11	6.4	56	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	W20-Ap13924	CP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-BHC	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan I	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-BHC (Lindane)	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	W20-Ap13924	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	W20-Ap13924	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	W20-Ap13924	CP	mg/kg	1000	530	65	30%	Fail	Q15
TRH >C34-C40	W20-Ap13924	CP	mg/kg	290	180	47	30%	Fail	Q15

Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S20-Ap18861	NCP	mg/kg	9.4	7.3	26	30%	Pass	
Cadmium	S20-Ap18861	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ap18861	NCP	mg/kg	22	15	37	30%	Fail	Q15
Copper	S20-Ap18861	NCP	mg/kg	35	28	24	30%	Pass	
Lead	S20-Ap18861	NCP	mg/kg	79	43	59	30%	Fail	Q15
Mercury	S20-Ap18861	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ap18861	NCP	mg/kg	15	11	26	30%	Pass	
Zinc	S20-Ap18861	NCP	mg/kg	140	110	27	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	W20-Ap13925	CP	%	38	37	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	W20-Ap13930	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	W20-Ap13930	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	W20-Ap13930	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	W20-Ap13930	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	W20-Ap13930	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	W20-Ap13930	CP	mg/kg	< 20	< 20	<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
G01	The LORs have been raised due to matrix interference
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
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q15	The RPD reported passes Eurofins Environment Testing'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
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
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.

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

Attention:	George Black
Report	713049-AID
Project Name	KAMBALA
Project ID	58081
Received Date	Apr 08, 2020
Date Reported	Apr 17, 2020

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 KAMBALA
Project ID 58081
Date Sampled Apr 07, 2020
Report 713049-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
HA06 0-0.1	20-Ap13924	Apr 07, 2020	Approximate Sample 636g Sample consisted of: Brown fine-grained sandy soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA07 0.2-0.3	20-Ap13925	Apr 07, 2020	Approximate Sample 489g Sample consisted of: Brown fine-grained sandy soil, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA08 0.2-0.3	20-Ap13926	Apr 07, 2020	Approximate Sample 547g Sample consisted of: Brown fine-grained sandy soil, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA09 0-0.1	20-Ap13927	Apr 07, 2020	Approximate Sample 280g Sample consisted of: Brown fine-grained sandy soil, rocks, glass and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA10 0-0.1	20-Ap13928	Apr 07, 2020	Approximate Sample 577g Sample consisted of: Brown fine-grained sandy soil, bitumen, cement, brick and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
HA11 0.4-0.5	20-Ap13929	Apr 07, 2020	Approximate Sample 895g Sample consisted of: Brown fine-grained sandy soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
HA12 0-0.1	20-Ap13930	Apr 07, 2020	Approximate Sample 778g Sample consisted of: Brown fine-grained sandy soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
FRAG-01	20-Ap13931	Apr 07, 2020	Approximate Sample 13g / 45x40x4mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
FRAG-02	20-Ap13932	Apr 07, 2020	Approximate Sample 10g / 50x35x4mm Sample consisted of: Grey fibre cement material	Chrysotile and amosite asbestos detected.
QA20200407-1	20-Ap13934	Apr 07, 2020	Approximate Sample 521g Sample consisted of: Brown fine-grained sandy soil, rocks, bitumen and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos 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.

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	Apr 09, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 09, 2020	Indefinite

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	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.

Comments

W20-Ap13925 & W20-Ap13927: 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:

Chamath JHM Annakkage	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.

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

Attention: **George Black**

Report **713049-W**
Project name KAMBALA
Project ID 58081
Received Date Apr 08, 2020

Client Sample ID			**RIN01**	[R20]**TS**	**TB**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**W20-Ap13933**	**W20-Ap13935**	**W20-Ap13936**
Date Sampled			**Apr 07, 2020**	**Apr 07, 2020**	**Apr 07, 2020**
Test/Reference	LOR	Unit			
Naphthalene[N02]	0.01	mg/L	-	100	< 0.01
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	74	< 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-C36 (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	110	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	100	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	95	< 0.002
o-Xylene	0.001	mg/L	< 0.001	110	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	99	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	93	100
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	< 0.01	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	-	-
TRH C6-C10	0.02	mg/L	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-	-
Total Recoverable Hydrocarbons					
TRH C6-C10	0.02	mg/L	-	72	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	-	< 0.02
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	-	-

Client Sample ID			RIN01	R20TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			W20-Ap13933	W20-Ap13935	W20-Ap13936
Date Sampled			Apr 07, 2020	Apr 07, 2020	Apr 07, 2020
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
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	%	87	-	-
p-Terphenyl-d14 (surr.)	1	%	108	-	-
Organochlorine Pesticides					
Chlordanes - Total	0.001	mg/L	< 0.001	-	-
4.4'-DDD	0.0001	mg/L	< 0.0001	-	-
4.4'-DDE	0.0001	mg/L	< 0.0001	-	-
4.4'-DDT	0.0001	mg/L	< 0.0001	-	-
a-BHC	0.0001	mg/L	< 0.0001	-	-
Aldrin	0.0001	mg/L	< 0.0001	-	-
b-BHC	0.0001	mg/L	< 0.0001	-	-
d-BHC	0.0001	mg/L	< 0.0001	-	-
Dieldrin	0.0001	mg/L	< 0.0001	-	-
Endosulfan I	0.0001	mg/L	< 0.0001	-	-
Endosulfan II	0.0001	mg/L	< 0.0001	-	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	-	-
Endrin	0.0001	mg/L	< 0.0001	-	-
Endrin aldehyde	0.0001	mg/L	< 0.0001	-	-
Endrin ketone	0.0001	mg/L	< 0.0001	-	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	-	-
Heptachlor	0.0001	mg/L	< 0.0001	-	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	-	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	-	-
Methoxychlor	0.0001	mg/L	< 0.0001	-	-
Toxaphene	0.01	mg/L	< 0.01	-	-
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	-	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	-	-
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	-	-
Dibutylchlorendate (surr.)	1	%	138	-	-
Tetrachloro-m-xylene (surr.)	1	%	64	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	-	-
Metals M8					
Arsenic	0.001	mg/L	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	-	-
Chromium	0.001	mg/L	< 0.001	-	-
Copper	0.001	mg/L	< 0.001	-	-
Lead	0.001	mg/L	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	-	-
Nickel	0.001	mg/L	< 0.001	-	-
Zinc	0.005	mg/L	< 0.005	-	-

Sample History

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

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	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 14, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 14, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 14, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 14, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	HA06 0-0.1	Apr 07, 2020		Soil	W20-Ap13924	X			X	X	X	X	X	X	
2	HA07 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13925	X			X		X	X	X	X	
3	HA08 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13926	X			X		X	X	X	X	
4	HA09 0-0.1	Apr 07, 2020		Soil	W20-Ap13927	X			X		X	X	X	X	
5	HA10 0-0.1	Apr 07, 2020		Soil	W20-Ap13928	X			X		X	X	X	X	
6	HA11 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13929	X			X		X	X	X	X	
7	HA12 0-0.1	Apr 07, 2020		Soil	W20-Ap13930	X			X	X	X	X	X	X	
8	FRAG-01	Apr 07, 2020		Building Materials	W20-Ap13931		X								
9	FRAG-02	Apr 07, 2020		Building Materials	W20-Ap13932		X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	RIN01	Apr 07, 2020		Water	W20-Ap13933				X	X	X	X		X	
11	QA20200407-1	Apr 07, 2020		Soil	W20-Ap13934	X			X	X	X	X	X	X	
12	TS	Apr 07, 2020		Water	W20-Ap13935										X
13	TB	Apr 07, 2020		Water	W20-Ap13936										X
14	HA06 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13937			X							
15	HA06 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13938			X							
16	HA07 0-0.1	Apr 07, 2020		Soil	W20-Ap13939			X							
17	HA07 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13940			X							
18	HA08 0-0.1	Apr 07, 2020		Soil	W20-Ap13941			X							
19	HA09 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13942			X							
20	HA10 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13943			X							
21	HA10 0.4-0.5	Apr 07, 2020		Soil	W20-Ap13944			X							

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 713049
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2020 5:48 PM
Due: Apr 17, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	HOLD	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals M8	BTEX	Moisture Set	Total Recoverable Hydrocarbons	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271															
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
22	HA11 0-0.1	Apr 07, 2020		Soil	W20-Ap13945			X							
23	HA11 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13946			X							
24	HA11 0.9-1.0	Apr 07, 2020		Soil	W20-Ap13947			X							
25	HA12 0.2-0.3	Apr 07, 2020		Soil	W20-Ap13948			X							
Test Counts						8	2	12	9	4	9	9	8	9	2

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							
Naphthalene	mg/L	< 0.01			0.01	Pass	
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							
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Metals M8							
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							
Naphthalene	%	99			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	111			70-130	Pass	
TRH C10-C14	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	120			70-130	Pass	
Toluene	%	112			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	105			70-130	Pass	
o-Xylene	%	108			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	84			70-130	Pass	
Acenaphthylene	%	95			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	%	79			70-130	Pass	
Benzo(g.h.i)perylene	%	109			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	88			70-130	Pass	
Dibenz(a.h)anthracene	%	83			70-130	Pass	
Fluoranthene	%	70			70-130	Pass	
Fluorene	%	74			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	87			70-130	Pass	
Pyrene	%	72			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	124			70-130	Pass	
4.4'-DDD	%	123			70-130	Pass	
4.4'-DDE	%	127			70-130	Pass	
4.4'-DDT	%	73			70-130	Pass	
a-BHC	%	79			70-130	Pass	
Aldrin	%	119			70-130	Pass	
b-BHC	%	99			70-130	Pass	
d-BHC	%	94			70-130	Pass	
Dieldrin	%	110			70-130	Pass	
Endosulfan I	%	117			70-130	Pass	
Endosulfan II	%	101			70-130	Pass	
Endosulfan sulphate	%	107			70-130	Pass	
Endrin	%	107			70-130	Pass	
Endrin aldehyde	%	72			70-130	Pass	
Endrin ketone	%	94			70-130	Pass	
g-BHC (Lindane)	%	92			70-130	Pass	
Heptachlor	%	117			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	77			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	91			70-130	Pass	
LCS - % Recovery							
Metals M8							
Arsenic	%	92			70-130	Pass	
Cadmium	%	96			70-130	Pass	
Chromium	%	96			70-130	Pass	
Copper	%	96			70-130	Pass	
Lead	%	99			70-130	Pass	
Mercury	%	105			70-130	Pass	
Nickel	%	95			70-130	Pass	
Zinc	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Naphthalene	W20-Ap13933	CP	%	105			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-Ap16902	NCP	%	127			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	W20-Ap13933	CP	%	117			70-130	Pass	
Toluene	W20-Ap13933	CP	%	114			70-130	Pass	
Ethylbenzene	W20-Ap13933	CP	%	114			70-130	Pass	
m&p-Xylenes	W20-Ap13933	CP	%	112			70-130	Pass	
o-Xylene	W20-Ap13933	CP	%	114			70-130	Pass	
Xylenes - Total*	W20-Ap13933	CP	%	112			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	S20-Ap16902	NCP	%	125			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S20-Ap16992	NCP	%	101			70-130	Pass	
Cadmium	S20-Ap16992	NCP	%	100			70-130	Pass	
Chromium	S20-Ap16992	NCP	%	96			70-130	Pass	
Copper	S20-Ap16992	NCP	%	95			70-130	Pass	
Lead	S20-Ap16992	NCP	%	95			70-130	Pass	
Mercury	S20-Ap16992	NCP	%	101			70-130	Pass	
Nickel	S20-Ap16992	NCP	%	95			70-130	Pass	
Zinc	S20-Ap16992	NCP	%	96			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Naphthalene	S20-Ap16901	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ap16901	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S20-Ap16901	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S20-Ap16901	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S20-Ap16901	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C10	S20-Ap16901	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S20-Ap13873	NCP	mg/L	0.002	0.002	27	30%	Pass	
Cadmium	S20-Ap13873	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S20-Ap13873	NCP	mg/L	0.028	0.028	<1	30%	Pass	
Copper	S20-Ap13873	NCP	mg/L	0.004	0.004	3.0	30%	Pass	
Lead	S20-Ap13873	NCP	mg/L	0.002	0.002	3.0	30%	Pass	
Mercury	S20-Ap13873	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S20-Ap13873	NCP	mg/L	0.004	0.004	7.0	30%	Pass	
Zinc	S20-Ap13873	NCP	mg/L	0.044	0.046	5.0	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
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (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.

015968

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58081
PROJECT NAME: Kemble
DATE NEEDED BY: SD TAT
LABORATORY BATCH NO.:
SAMPLERS: NM
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	Heavy Metals	PAHs	Asbestos	TRH/BTEX	OCPs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/NA	NOTES:
HA06 0-0.1	Soil	7/4		Bag+Jar + Ice		X	X	X	X	X		X	
0.2-0.3													
0.4-0.5													
HA07 0-0.1													
0.2-0.3						X	X	X	X			X	
0.4-0.5													
HA08 0-0.1													
0.2-0.3						X	X	X	X			X	
HA09 0-0.1						X	X	X	X			X	
0.2-0.3						X	X	X	X			X	
HA10 0-0.1						X	X	X	X				
0.2-0.3													
0.4-0.5													
HA11 0-0.1													
0.2-0.3						[illegible]							
0.4-0.5						X	X	X	X			X	
0.9-1.0													
HA12 0-0.1						X	X	X	X	X		X	
0.2-0.3													

RELINQUISHED BY:
NAME: Nic Merritt DATE: 8/4/20
OF: JBS&G
NAME: DATE:
OF:

METHOD OF SHIPMENT:
CONSIGNMENT NOTE NO.
TRANSPORT CO.
CONSIGNMENT NOTE NO.
TRANSPORT CO

RECEIVED BY:
NAME: Vis D
DATE: 8/4/20
OF: Eurofins
NAME: DATE:
OF:

FOR RECEIVING LAB USE ONLY:
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP 10.1 deg C
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C

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

IMSO FormsO13 – Chain of Custody – Generic

015969

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58081
PROJECT NAME: Kambala
DATE NEEDED BY: STD TAT
LABORATORY BATCH NO.:
SAMPLERS: NM
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) ...gbleach.....@jbsg.com.au; (3) ...nmorris.....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Heavy Metals	PAHs	Asbestos	TRH/BTEX	OCPs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
Frag - 01	Frag	7/4		Frag				X			X		
Frag - 02	Frag							X			X		
RIN 01	Water			1x Amber, 1x Metal, 4x vials		X	X		X	X			— Please forward to envirolab
QA 20200407-1	Soil			Bag + Jar + Ice		X	X	X	X	X		X	
QC 20200407-1	Soil					X	X	X	X	X		X	
TS	Water			4.2x vials					X				
TB	Water								X				

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Nic Morris DATE: 8/4/20	CONSIGNMENT NOTE NO.	NAME: Elvis D	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 8/4/20	COOLER TEMP 10.4 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

IMSO Forms013 – Chain of Custody - Generic

eurofins | Environment Testing

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

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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**

Contact name: George Black
Project name: KAMBALA
Project ID: 58081
COC number: 014662-3,014665
Turn around time: 5 Day
Date/Time received: Apr 21, 2020 5:30 PM
Eurofins reference: **714933**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 17.3 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

QC20200420, QC20200421 and QC20200421-2 forwarded to Envirolab.

Contact notes

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

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

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

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: **George Black**

Report **714933-S**
Project name KAMBALA
Project ID 58081
Received Date Apr 21, 2020

Client Sample ID			**BH11_0.5-1.0**	**BH12_3.0-3.5**	**BH13_0.0-0.1**	**BH14_0.0-0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-Ap30186**	**S20-Ap30187**	**S20-Ap30188**	**S20-Ap30189**
Date Sampled			**Apr 20, 2020**	**Apr 20, 2020**	**Apr 20, 2020**	**Apr 20, 2020**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	110	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	72	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	182	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	137	122	124	117
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	< 100	160	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	160	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	4.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	4.5	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	4.5	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	1.8	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	3.0	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	2.4	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	2.2	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	2.9	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	2.0	< 0.5	< 0.5

Client Sample ID			BH11_0.5-1.0	BH12_3.0-3.5	BH13_0.0-0.1	BH14_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30186	S20-Ap30187	S20-Ap30188	S20-Ap30189
Date Sampled			Apr 20, 2020	Apr 20, 2020	Apr 20, 2020	Apr 20, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	2.7	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	1.7	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	3.1	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	23	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	77	102	84	77
p-Terphenyl-d14 (surr.)	1	%	84	115	82	87
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	0.2	mg/kg	< 0.2	-	-	-
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	< 0.2	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	66	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	82	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB*	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	66	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	82	-	-	-

Client Sample ID			BH11_0.5-1.0	BH12_3.0-3.5	BH13_0.0-0.1	BH14_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30186	S20-Ap30187	S20-Ap30188	S20-Ap30189
Date Sampled			Apr 20, 2020	Apr 20, 2020	Apr 20, 2020	Apr 20, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	11	15	6.5	13
Heavy Metals						
Arsenic	2	mg/kg	4.9	< 2	< 2	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	8.8	< 5	< 5	6.3
Copper	5	mg/kg	< 5	14	< 5	< 5
Lead	5	mg/kg	< 5	600	8.1	14
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	75	6.8	15

Client Sample ID			BH15_0.5-1.0	BH16_0.0-0.01	TP1_0.0-0.1	TP1_1.0-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30190	S20-Ap30191	S20-Ap30192	S20-Ap30193
Date Sampled			Apr 20, 2020	Apr 20, 2020	Apr 21, 2020	Apr 21, 2020
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-C36 (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	%	86	-	103	-
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	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH15_0.5-1.0	BH16_0.0-0.01	TP1_0.0-0.1	TP1_1.0-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30190	S20-Ap30191	S20-Ap30192	S20-Ap30193
Date Sampled			Apr 20, 2020	Apr 20, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5
2-Fluorobiphenyl (surr.)	1	%	81	88	82	94
p-Terphenyl-d14 (surr.)	1	%	83	88	85	89
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	0.2	mg/kg	-	-	< 0.2	-
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	-	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	103	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	98	-
% Moisture	1	%	11	8.6	10	8.1
Heavy Metals						
Arsenic	2	mg/kg	< 2	7.9	5.5	2.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.5	10.0	7.2	< 5
Copper	5	mg/kg	< 5	11	24	5.1

Client Sample ID			BH15_0.5-1.0	BH16_0.0-0.01	TP1_0.0-0.1	TP1_1.0-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30190	S20-Ap30191	S20-Ap30192	S20-Ap30193
Date Sampled			Apr 20, 2020	Apr 20, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	< 5	21	49	6.0
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	21	49	11

Client Sample ID			TP2_1.5-2.0	TP3_0.0-0.1	TP4_0.0-0.1	TP5_0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30195	S20-Ap30196	S20-Ap30197	S20-Ap30198
Date Sampled			Apr 21, 2020	Apr 21, 2020	Apr 21, 2020	Apr 21, 2020
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	390	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	270	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	660	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	98	114	107	108
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	580	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	140	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	720	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	17	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	17	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	17	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	0.7	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	8.4	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	11	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	9.1	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	6.6	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	8.2	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	7.9	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	2.3	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	12	< 0.5	< 0.5	< 0.5

Client Sample ID			TP2_1.5-2.0	TP3_0.0-0.1	TP4_0.0-0.1	TP5_0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30195	S20-Ap30196	S20-Ap30197	S20-Ap30198
Date Sampled			Apr 21, 2020	Apr 21, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	5.8	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	2.7	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	14	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	88.7	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	79	80	87	88
p-Terphenyl-d14 (surr.)	1	%	91	85	88	83
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	0.2	mg/kg	-	-	< 0.2	-
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	-	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	83	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	-	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	-	-	< 0.5	-
Total PCB*	0.5	mg/kg	-	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	-	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	83	-
% Moisture	1	%	20	8.4	8.5	4.9

Client Sample ID			TP2_1.5-2.0	TP3_0.0-0.1	TP4_0.0-0.1	TP5_0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30195	S20-Ap30196	S20-Ap30197	S20-Ap30198
Date Sampled			Apr 21, 2020	Apr 21, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.5	5.9	8.2	5.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	13	6.1	6.4	13
Copper	5	mg/kg	40	5.2	< 5	< 5
Lead	5	mg/kg	59	13	17	14
Mercury	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	110	18	12	6.6

Client Sample ID			TP6_1.0-1.5	TP7_0.0-0.1	TP7_0.6-0.7	TP8_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30199	S20-Ap30200	S20-Ap30201	S20-Ap30202
Date Sampled			Apr 21, 2020	Apr 21, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	92	-	96
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	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	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	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			TP6_1.0-1.5	TP7_0.0-0.1	TP7_0.6-0.7	TP8_0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ap30199	S20-Ap30200	S20-Ap30201	S20-Ap30202
Date Sampled			Apr 21, 2020	Apr 21, 2020	Apr 21, 2020	Apr 21, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 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	< 0.5	< 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	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	83	83	-	89
p-Terphenyl-d14 (surr.)	1	%	92	93	-	95
% Clay	1	%	-	-	5.7	-
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	-	-	4.3	-
% Moisture	1	%	5.6	7.9	8.6	15
Heavy Metals						
Arsenic	2	mg/kg	< 2	6.0	< 2	2.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	12	5.6	< 5
Copper	5	mg/kg	< 5	10	< 5	7.0
Lead	5	mg/kg	8.5	25	< 5	13
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	5.6	< 5	< 5
Zinc	5	mg/kg	< 5	30	< 5	19
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	-	1.3	-

Client Sample ID			QA20200421
Sample Matrix			Soil
Eurofins Sample No.			S20-Ap30203
Date Sampled			Apr 21, 2020
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
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	%	99

Client Sample ID			QA20200421
Sample Matrix			Soil
Eurofins Sample No.			S20-Ap30203
Date Sampled			Apr 21, 2020
Test/Reference	LOR	Unit	
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	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	85
p-Terphenyl-d14 (surr.)	1	%	91
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05

Client Sample ID			QA20200421
Sample Matrix			**Soil**
Eurofins Sample No.			**S20-Ap30203**
Date Sampled			**Apr 21, 2020**
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2
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	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2
Dibutylchlorendate (surr.)	1	%	66
Tetrachloro-m-xylene (surr.)	1	%	80
Polychlorinated Biphenyls			
Aroclor-1016	0.5	mg/kg	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5
Total PCB*	0.5	mg/kg	< 0.5
Dibutylchlorendate (surr.)	1	%	66
Tetrachloro-m-xylene (surr.)	1	%	80
% Moisture	1	%	10
Heavy Metals			
Arsenic	2	mg/kg	8.7
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	6.3
Copper	5	mg/kg	< 5
Lead	5	mg/kg	13
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	15

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	Sydney	Apr 27, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 27, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 27, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 27, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 27, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Apr 27, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Apr 27, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Apr 27, 2020	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Clay	Brisbane	Apr 27, 2020	0 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	Apr 27, 2020	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Apr 28, 2020	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Apr 28, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Sydney	Apr 21, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	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	BH11_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30186		X						X	X		X
2	BH12_3.0-3.5	Apr 20, 2020		Soil	S20-Ap30187		X							X		X
3	BH13_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30188		X							X		X
4	BH14_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30189		X							X		X
5	BH15_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30190		X							X		X
6	BH16_0.0-0.01	Apr 20, 2020		Soil	S20-Ap30191		X			X		X		X		
7	TP1_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30192		X				X			X		X
8	TP1_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30193					X		X		X		
9	TP2_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30194		X									
10	TP2_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30195		X							X		X

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
11	TP3_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30196		X							X		X
12	TP4_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30197		X						X	X		X
13	TP5_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30198		X							X		X
14	TP6_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30199		X							X		X
15	TP7_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30200		X							X		X
16	TP7_0.6-0.7	Apr 21, 2020		Soil	S20-Ap30201	X			X			X		X	X	
17	TP8_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30202		X							X		X
18	QA20200421	Apr 21, 2020		Soil	S20-Ap30203		X						X	X		X
19	BH11_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30204			X								
20	BH11_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30205			X								
21	BH12_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30206			X								
22	BH12_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30207			X								
23	BH12_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30208			X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
24	BH12_2.5-3.0	Apr 20, 2020		Soil	S20-Ap30209			X								
25	BH12_4.0-4.5	Apr 20, 2020		Soil	S20-Ap30210			X								
26	BH13_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30211			X								
27	BH13_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30212			X								
28	BH14_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30213			X								
29	BH14_1.4	Apr 20, 2020		Soil	S20-Ap30214			X								
30	BH15_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30215			X								
31	BH15_1.5-2.0	Apr 20, 2020		Soil	S20-Ap30216			X								
32	BH16_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30217			X								
33	QA20200420	Apr 20, 2020		Soil	S20-Ap30218			X								
34	TP1_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30219			X								
35	TP1_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30220			X								
36	TP2_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30221			X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
37	TP2_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30222			X								
38	TP3_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30223			X								
39	TP3_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30224			X								
40	TP3_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30225			X								
41	TP4_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30226			X								
42	TP4_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30227			X								
43	TP4_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30228			X								
44	TP5_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30229			X								
45	TP5_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30230			X								
46	TP6_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30231			X								
47	TP6_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30232			X								
48	TP6_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30233			X								
49	TP8_0.5-0.6	Apr 21, 2020		Soil	S20-Ap30234			X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
50	QA20200421-2	Apr 21, 2020		Soil	S20-Ap30235			X								
Test Counts						1	16	32	1	2	1	3	3	17	1	14

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							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
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	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	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	%	107			70-130	Pass	
TRH C10-C14	%	98			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	109			70-130	Pass	
Toluene	%	109			70-130	Pass	
Ethylbenzene	%	116			70-130	Pass	
m&p-Xylenes	%	123			70-130	Pass	
o-Xylene	%	127			70-130	Pass	
Xylenes - Total*	%	124			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	122			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
TRH >C10-C16	%	95			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	119			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	115			70-130	Pass	
Benz(a)anthracene	%	107			70-130	Pass	
Benzo(a)pyrene	%	112			70-130	Pass	
Benzo(b&j)fluoranthene	%	129			70-130	Pass	
Benzo(g.h.i)perylene	%	80			70-130	Pass	
Benzo(k)fluoranthene	%	113			70-130	Pass	
Chrysene	%	110			70-130	Pass	
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	105			70-130	Pass	
Fluorene	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	106			70-130	Pass	
Phenanthrene	%	120			70-130	Pass	
Pyrene	%	107			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	97			70-130	Pass	
4.4'-DDD	%	101			70-130	Pass	
4.4'-DDE	%	101			70-130	Pass	
4.4'-DDT	%	107			70-130	Pass	
a-BHC	%	98			70-130	Pass	
Aldrin	%	99			70-130	Pass	
b-BHC	%	91			70-130	Pass	
d-BHC	%	117			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	100			70-130	Pass	
Endosulfan II	%	105			70-130	Pass	
Endosulfan sulphate	%	109			70-130	Pass	
Endrin	%	111			70-130	Pass	
Endrin aldehyde	%	87			70-130	Pass	
Endrin ketone	%	91			70-130	Pass	
g-BHC (Lindane)	%	96			70-130	Pass	
Heptachlor	%	100			70-130	Pass	
Heptachlor epoxide	%	100			70-130	Pass	
Hexachlorobenzene	%	96			70-130	Pass	
Methoxychlor	%	107			70-130	Pass	
Toxaphene	%	90			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	90			70-130	Pass	
Aroclor-1260	%	80			70-130	Pass	
LCS - % Recovery							
% Clay	%	75			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	108			70-130	Pass	
Cadmium	%	98			70-130	Pass	
Chromium	%	98			70-130	Pass	
Copper	%	92			70-130	Pass	
Lead	%	96			70-130	Pass	
Mercury	%	91			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel			%	96			70-130	Pass	
Zinc			%	94			70-130	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	S20-Ap29035	NCP	%	99			70-130	Pass	
TRH C10-C14	S20-Ap29035	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-Ap29035	NCP	%	113			70-130	Pass	
Toluene	S20-Ap29035	NCP	%	114			70-130	Pass	
Ethylbenzene	S20-Ap29035	NCP	%	118			70-130	Pass	
m&p-Xylenes	S20-Ap29035	NCP	%	122			70-130	Pass	
o-Xylene	S20-Ap29035	NCP	%	124			70-130	Pass	
Xylenes - Total*	S20-Ap29035	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S20-Ap29035	NCP	%	114			70-130	Pass	
TRH C6-C10	S20-Ap29035	NCP	%	102			70-130	Pass	
TRH >C10-C16	S20-Ap29035	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-Ap22726	NCP	%	112			70-130	Pass	
Acenaphthylene	S20-Ap22726	NCP	%	104			70-130	Pass	
Anthracene	S20-Ap22726	NCP	%	101			70-130	Pass	
Benz(a)anthracene	S20-Ap22726	NCP	%	108			70-130	Pass	
Benzo(a)pyrene	S20-Ap22726	NCP	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	S20-Ap22726	NCP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	S20-Ap22726	NCP	%	94			70-130	Pass	
Benzo(k)fluoranthene	S20-Ap22726	NCP	%	116			70-130	Pass	
Chrysene	S20-Ap22726	NCP	%	112			70-130	Pass	
Dibenz(a.h)anthracene	S20-Ap22726	NCP	%	103			70-130	Pass	
Fluoranthene	S20-Ap22726	NCP	%	100			70-130	Pass	
Fluorene	S20-Ap22726	NCP	%	101			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ap22726	NCP	%	95			70-130	Pass	
Naphthalene	S20-Ap22726	NCP	%	97			70-130	Pass	
Phenanthrene	S20-Ap22726	NCP	%	110			70-130	Pass	
Pyrene	S20-Ap22726	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Ap29036	NCP	%	87			70-130	Pass	
4.4'-DDD	S20-Ap29036	NCP	%	102			70-130	Pass	
4.4'-DDE	S20-Ap29036	NCP	%	91			70-130	Pass	
4.4'-DDT	S20-Ap29036	NCP	%	72			70-130	Pass	
a-BHC	S20-Ap29036	NCP	%	90			70-130	Pass	
Aldrin	S20-Ap29036	NCP	%	90			70-130	Pass	
b-BHC	S20-Ap29036	NCP	%	84			70-130	Pass	
d-BHC	S20-Ap29036	NCP	%	107			70-130	Pass	
Dieldrin	S20-Ap29036	NCP	%	91			70-130	Pass	
Endosulfan I	S20-Ap29036	NCP	%	89			70-130	Pass	
Endosulfan II	S20-Ap29036	NCP	%	93			70-130	Pass	
Endosulfan sulphate	S20-Ap29036	NCP	%	96			70-130	Pass	
Endrin aldehyde	S20-Ap29036	NCP	%	70			70-130	Pass	
Endrin ketone	S20-Ap29036	NCP	%	72			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
g-BHC (Lindane)	S20-Ap29036	NCP	%	88			70-130	Pass	
Heptachlor	S20-Ap29036	NCP	%	90			70-130	Pass	
Heptachlor epoxide	S20-Ap29036	NCP	%	90			70-130	Pass	
Hexachlorobenzene	S20-Ap29036	NCP	%	88			70-130	Pass	
Methoxychlor	S20-Ap29036	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Ap30199	CP	%	104			70-130	Pass	
Cadmium	S20-Ap30199	CP	%	92			70-130	Pass	
Chromium	S20-Ap30199	CP	%	95			70-130	Pass	
Copper	S20-Ap30199	CP	%	90			70-130	Pass	
Lead	S20-Ap30199	CP	%	87			70-130	Pass	
Mercury	S20-Ap30199	CP	%	96			70-130	Pass	
Nickel	S20-Ap30199	CP	%	93			70-130	Pass	
Zinc	S20-Ap30199	CP	%	85			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-Ap29035	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-Ap29035	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-Ap29035	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S20-Ap29035	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S20-Ap30039	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S20-Ap30039	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ap30039	NCP	%	11	10	7.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ap30187	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ap30187	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-Ap30187	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-Ap30187	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-Ap30187	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-Ap30187	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-Ap30187	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ap30187	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-Ap30187	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S20-Ap30188	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S20-Ap30188	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S20-Ap30188	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S20-Ap30188	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S20-Ap30188	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S20-Ap30188	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ap30188	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ap30192	CP	mg/kg	5.5	5.9	6.0	30%	Pass	
Cadmium	S20-Ap30192	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ap30192	CP	mg/kg	7.2	8.4	15	30%	Pass	
Copper	S20-Ap30192	CP	mg/kg	24	28	14	30%	Pass	
Lead	S20-Ap30192	CP	mg/kg	49	51	4.0	30%	Pass	
Mercury	S20-Ap30192	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ap30192	CP	mg/kg	< 5	6.2	32	30%	Fail	
Zinc	S20-Ap30192	CP	mg/kg	49	55	12	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ap30198	CP	mg/kg	5.6	< 2	99	30%	Fail	Q02
Cadmium	S20-Ap30198	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ap30198	CP	mg/kg	13	< 5	120	30%	Fail	Q02
Copper	S20-Ap30198	CP	mg/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S20-Ap30198	CP	mg/kg	14	12	14	30%	Pass	
Mercury	S20-Ap30198	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ap30198	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S20-Ap30198	CP	mg/kg	6.6	5.4	20	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	P19-No36262	NCP	%	1.3	1.3	<1	30%	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	M20-Ap39814	NCP	uS/cm	460	560	20	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S20-Ap34133	NCP	pH Units	6.2	6.3	Pass	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
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)
Scott Beddoes	Senior Analyst-Inorganic (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.

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

Attention:	George Black
Report	714933-AID
Project Name	KAMBALA
Project ID	58081
Received Date	Apr 21, 2020
Date Reported	Apr 28, 2020

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 KAMBALA
Project ID 58081
Date Sampled Apr 20, 2020 to Apr 21, 2020
Report 714933-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH11_0.5-1.0	20-Ap30186	Apr 20, 2020	Approximate Sample 745g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH12_3.0-3.5	20-Ap30187	Apr 20, 2020	Approximate Sample 933g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH13_0.0-0.1	20-Ap30188	Apr 20, 2020	Approximate Sample 766g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH14_0.0-0.1	20-Ap30189	Apr 20, 2020	Approximate Sample 628g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH15_0.5-1.0	20-Ap30190	Apr 20, 2020	Approximate Sample 738g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH16_0.0-0.01	20-Ap30191	Apr 20, 2020	Approximate Sample 676g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP1_0.0-0.1	20-Ap30192	Apr 21, 2020	Approximate Sample 689g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP2_0.0-0.1	20-Ap30194	Apr 21, 2020	Approximate Sample 647g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP2_1.5-2.0	20-Ap30195	Apr 21, 2020	Approximate Sample 624g 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 trace asbestos detected.
TP3_0.0-0.1	20-Ap30196	Apr 21, 2020	Approximate Sample 634g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP4_0.0-0.1	20-Ap30197	Apr 21, 2020	Approximate Sample 778g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP5_0.5-1.0	20-Ap30198	Apr 21, 2020	Approximate Sample 778g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP6_1.0-1.5	20-Ap30199	Apr 21, 2020	Approximate Sample 886g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP7_0.0-0.1	20-Ap30200	Apr 21, 2020	Approximate Sample 751g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
QA20200421	20-Ap30203	Apr 21, 2020	Approximate Sample 795g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP8_0.5-0.6	20-Ap30234	Apr 21, 2020	Approximate Sample 849g Sample consisted of: Brown fine-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos 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.

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	Apr 28, 2020	Indefinite

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	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	BH11_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30186		X						X	X		X
2	BH12_3.0-3.5	Apr 20, 2020		Soil	S20-Ap30187		X							X		X
3	BH13_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30188		X							X		X
4	BH14_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30189		X							X		X
5	BH15_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30190		X							X		X
6	BH16_0.0-0.01	Apr 20, 2020		Soil	S20-Ap30191		X			X		X		X		
7	TP1_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30192		X				X			X		X
8	TP1_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30193					X		X		X		
9	TP2_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30194		X									
10	TP2_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30195		X							X		X

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
11	TP3_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30196		X							X		X
12	TP4_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30197		X						X	X		X
13	TP5_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30198		X							X		X
14	TP6_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30199		X							X		X
15	TP7_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30200		X							X		X
16	TP7_0.6-0.7	Apr 21, 2020		Soil	S20-Ap30201	X			X			X		X	X	
17	TP8_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30202									X		X
18	QA20200421	Apr 21, 2020		Soil	S20-Ap30203		X						X	X		X
19	BH11_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30204			X								
20	BH11_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30205			X								
21	BH12_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30206			X								
22	BH12_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30207			X								
23	BH12_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30208			X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
24	BH12_2.5-3.0	Apr 20, 2020		Soil	S20-Ap30209			X								
25	BH12_4.0-4.5	Apr 20, 2020		Soil	S20-Ap30210			X								
26	BH13_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30211			X								
27	BH13_1.0-1.5	Apr 20, 2020		Soil	S20-Ap30212			X								
28	BH14_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30213			X								
29	BH14_1.4	Apr 20, 2020		Soil	S20-Ap30214			X								
30	BH15_0.0-0.1	Apr 20, 2020		Soil	S20-Ap30215			X								
31	BH15_1.5-2.0	Apr 20, 2020		Soil	S20-Ap30216			X								
32	BH16_0.5-1.0	Apr 20, 2020		Soil	S20-Ap30217			X								
33	QA20200420	Apr 20, 2020		Soil	S20-Ap30218			X								
34	TP1_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30219			X								
35	TP1_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30220			X								
36	TP2_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30221			X								

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
37	TP2_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30222			X								
38	TP3_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30223			X								
39	TP3_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30224			X								
40	TP3_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30225			X								
41	TP4_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30226			X								
42	TP4_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30227			X								
43	TP4_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30228			X								
44	TP5_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30229			X								
45	TP5_1.0-1.5	Apr 21, 2020		Soil	S20-Ap30230			X								
46	TP6_0.0-0.1	Apr 21, 2020		Soil	S20-Ap30231			X								
47	TP6_0.5-1.0	Apr 21, 2020		Soil	S20-Ap30232			X								
48	TP6_1.5-2.0	Apr 21, 2020		Soil	S20-Ap30233			X								
49	TP8_0.5-0.6	Apr 21, 2020		Soil	S20-Ap30234		X									

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 714933
Phone: 02 8245 0300
Fax:

Received: Apr 21, 2020 5:30 PM
Due: Apr 28, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins 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	Organochlorine Pesticides	Metals M8	Eurofins | mgt Suite B13	Moisture Set	Cation Exchange Capacity	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271															X	
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794						X										
Perth Laboratory - NATA Site # 23736																
50	QA20200421-2	Apr 21, 2020		Soil	S20-Ap30235			X								
Test Counts						1	16	31	1	2	1	3	3	17	1	14

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

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:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

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.

014662

EUROFINS

CHAIN OF CUSTODY

pg 1 of 3

JBS&G

PROJECT NO.: 58081
PROJECT NAME: Kambala ~~Boreholes~~
DATE NEEDED BY:
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) GBLACK@jbsg.com.au; (3) LBEEVORS@jbsg.com.au

LABORATORY BATCH NO.: 714933
SAMPLERS: LB
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	Heavy metals	TRH/BTEX	TRH Silica	PAHs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH11_0-0.1	Soil	20/4/20		jar + bag + ice											
0.5-1.0						x	x	x		x	x	x			
1.0-1.5															
BH12-0-0.1															
0.5-1.0															
1.0-1.5															
2.5-3.0															
3.0-3.5						x	x	x		x					
4.0-4.5															
BH13-0-0.1						x	x	x		x					
0.5-1.0															
1.0-1.5															
BH14_0-0.1						x	x	x		x					
0.5-1.0															
~~B~~ 1.4				jar											
BH15_0-0.1				jar + bag + ice											
0.5-1.0						x	x	x		x					
1.5-2.0															
BH16_0-0.1						x	x			x					

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 20/4/20 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: Grace DATE: 21/4 OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP 17.3 deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

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

014663

EUROFINS

CHAIN OF CUSTODY

pg 2 of 3

JBS&G

PROJECT NO.: S8081
PROJECT NAME: Kambala ~~Boorowa~~
DATE NEEDED BY: STD

LABORATORY BATCH NO.: 714933
SAMPLERS: LB
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) GBLACK@jbsg.com.au; (3) LBEEVORS@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	Heavy Metals	TRH/BTEX	TRH Silica	PAHs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: Identification	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH16-0.5-1.0	Soil	20/4/20		jar+bag+ice											
QA20200420	↓	↓		↓		HOLD									
QC20200420	↓	↓		↓		PLEASE		SEND		TO	ENVIROLABS				
TP1-0-0.1	↓	21/4/20		↓		x	x	x		x	x				
0.5-1.0	↓	↓		↓											
1.0-1.5	↓	↓		↓			x			x					
1.5-2.0	↓	↓		↓											
TP2-0-0.1	↓	↓		↓		x									
0.5-1.0	↓	↓		↓											
1.5-2.0	↓	↓		↓			x	x		x					
1.0-1.5	↓	↓		↓											
TP3-0-0.1	↓	↓		↓		x	x	x		x					
0.5-1.0	↓	↓		↓											
1.0-1.5	↓	↓		↓											
1.5-2.0	↓	↓		↓											
TP4-0-0.1	↓	↓		↓		x	x	x		x	x	x			
0.5-1.0	↓	↓		↓											
1.0-1.5	↓	↓		↓											
1.5-2.0	↓	↓		↓											

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 20/4/20 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: Grace DATE: 21/4 OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... 17.3 COOLER TEMP ..... deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

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

014665

EUROFINS

CHAIN OF CUSTODY

pg 3 of 3

JBS&G

PROJECT NO.: 58051
PROJECT NAME: Kambala
DATE NEEDED BY:
LABORATORY BATCH NO.: 714933
SAMPLERS: LB
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) GBLACK@jbsg.com.au; (3) LBEEVORS@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	ASBESTOS	HEAVY METALS	TRH/BTEX	TRH/Silica	PAHs	OCPs	PCBs	pH, clay %, CEC	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
TP5-0-0.1	Soil	21/4/20		jar+bag ice												
0.5-1.0						x	x	x		x						
1.0-1.5																
TP6-0-0.1																
0.5-1.0																
1.0-1.5						x	x	x		x						
1.5-2.0																
TP7-0-0.1						x	x	x		x						
0.6-0.7							x						x			
TP8-0-0.1						x	x	x		x						
0.5-0.6																
QA20200421						x	x	x		x	x	x				
QC20200421						PLEASE				SEND		TO	ENVIROLAB			
QA20200421-2						HOLD										
QC20200421-2						~~HOLD~~. PLEASE				SEND		TO	ENVIROLAB			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 21/4/20 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: Grace DATE: 21/4 OF: Eurofins	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP 17.3 deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

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

eurofins | Environment Testing

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

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

Sample Receipt Advice

Company name:	**JBS & G Australia (NSW) P/L**
Contact name:	George Black
Project name:	ADDITIONAL - KAMBALA
Project ID:	58081
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Apr 29, 2020 11:07 AM
Eurofins reference:	**716335**

Sample information

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

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 17.3 degrees Celsius.

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

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

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

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to George Black - gblack@jbsg.com.au.

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

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: **George Black**

Report **716335-S**
Project name ADDITIONAL - KAMBALA
Project ID 58081
Received Date Apr 29, 2020

Client Sample ID			**TP4_1.0-1.5**	**TP2_1.5-2.0**	**BH12_3.0-3.5**	**BH12_2.5-3.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-Ap42641**	**S20-Ap42642**	**S20-Ap42643**	**S20-Ap42644**
Date Sampled			**Apr 21, 2020**	**Apr 21, 2020**	**Apr 20, 2020**	**Apr 20, 2020**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	19
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	19
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	19
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	0.7
Benz(a)anthracene	0.5	mg/kg	-	-	-	7.3
Benzo(a)pyrene	0.5	mg/kg	-	-	-	12
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	8.8
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	11
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	9.0
Chrysene	0.5	mg/kg	-	-	-	8.1
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	3.0
Fluoranthene	0.5	mg/kg	-	-	-	12
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	8.1
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	2.6
Pyrene	0.5	mg/kg	-	-	-	14
Total PAH*	0.5	mg/kg	-	-	-	96.6
2-Fluorobiphenyl (surr.)	1	%	-	-	-	129
p-Terphenyl-d14 (surr.)	1	%	-	-	-	137
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	-	< 50	< 50	-
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	-	250	< 100	-
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	-	< 100	< 100	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	100	mg/kg	-	180	< 100	-
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	-	< 50	< 50	-
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	-	180	< 100	-
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	-	< 100	< 100	-
% Clay	1	%	< 1	-	-	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	22	-	-	-
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	3.4	-	-	-
% Moisture	1	%	5.1	19	15	16

Client Sample ID			TP4_1.0-1.5	TP2_1.5-2.0	BH12_3.0-3.5	BH12_2.5-3.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-Ap42641**	**S20-Ap42642**	**S20-Ap42643**	**S20-Ap42644**
Date Sampled			**Apr 21, 2020**	**Apr 21, 2020**	**Apr 20, 2020**	**Apr 20, 2020**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	< 5	-	-	-
Copper	5	mg/kg	< 5	-	-	-
Lead	5	mg/kg	< 5	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	< 5	-	-	-
Zinc	5	mg/kg	< 5	-	-	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	1.4	-	-	-

Client Sample ID			HA06 0-0.1
Sample Matrix			**Soil**
Eurofins Sample No.			**S20-Ap42645**
Date Sampled			**Apr 07, 2020**
Test/Reference	LOR	Unit	
TRH - 2013 NEPM Fractions (after silica gel clean-up)			
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	< 50
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	< 100
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100
TRH - 1999 NEPM Fractions (after silica gel clean-up)			
TRH C10-C36 (Total) (after silica gel clean-up)	100	mg/kg	< 100
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	< 50
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	< 100
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	< 100
% Moisture	1	%	15

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
Polycyclic Aromatic Hydrocarbons	Sydney	May 02, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Clay	Brisbane	May 05, 2020	0 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25°C as rec.)	Sydney	May 02, 2020	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Metals M8	Sydney	May 02, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Sydney	May 02, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Sydney	May 02, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	May 05, 2020	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	May 06, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Sydney	Apr 29, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: ADDITIONAL - KAMBALA
Project ID: 58081

Order No.:
Report #: 716335
Phone: 02 8245 0300
Fax:

Received: Apr 29, 2020 11:07 AM
Due: May 6, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Lead	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA Site # 1254 & 14271													X	X
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	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	TP4_1.0-1.5	Apr 21, 2020		Soil	S20-Ap42641	X		X			X		X	X
2	TP2_1.5-2.0	Apr 21, 2020		Soil	S20-Ap42642							X	X	
3	BH12_3.0-3.5	Apr 20, 2020		Soil	S20-Ap42643							X	X	
4	BH12_2.5-3.0	Apr 20, 2020		Soil	S20-Ap42644				X				X	
5	HA06 0-0.1	Apr 07, 2020		Soil	S20-Ap42645							X	X	
6	TP2_1.5-2.0	Apr 21, 2020		US Leachate	S20-Ap42646				X	X				
7	BH12_3.0-3.5	Apr 20, 2020		US Leachate	S20-Ap42647		X			X				
Test Counts						1	1	1	2	2	1	3	5	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							
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							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/kg	< 50			50	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/kg	< 50			50	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/kg	< 100			100	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							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	113			70-130	Pass	
Benz(a)anthracene	%	81			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	113			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	113			70-130	Pass	
Fluorene	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Naphthalene	%	119			70-130	Pass	
Phenanthrene	%	115			70-130	Pass	
Pyrene	%	117			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	83			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	87			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	106			70-130	Pass	
Cadmium	%	103			70-130	Pass	
Chromium	%	98			70-130	Pass	
Copper	%	94			70-130	Pass	
Lead	%	99			70-130	Pass	
Mercury	%	101			70-130	Pass	
Nickel	%	99			70-130	Pass	
Zinc	%	90			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Ap42722	NCP	%	94			70-130	Pass	
Cadmium	S20-Ap42722	NCP	%	86			70-130	Pass	
Chromium	S20-Ap42722	NCP	%	86			70-130	Pass	
Copper	S20-Ap42722	NCP	%	81			70-130	Pass	
Lead	S20-Ap44661	NCP	%	91			70-130	Pass	
Mercury	S20-Ap42722	NCP	%	100			70-130	Pass	
Nickel	S20-Ap42722	NCP	%	80			70-130	Pass	
Zinc	S20-Ap44661	NCP	%	102			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-My00435	NCP	%	97			70-130	Pass	
Acenaphthylene	S20-My00435	NCP	%	96			70-130	Pass	
Anthracene	S20-My00435	NCP	%	95			70-130	Pass	
Benz(a)anthracene	S20-My00435	NCP	%	95			70-130	Pass	
Benzo(a)pyrene	S20-My00435	NCP	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	S20-My00435	NCP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	S20-My00435	NCP	%	95			70-130	Pass	
Benzo(k)fluoranthene	S20-My00435	NCP	%	82			70-130	Pass	
Chrysene	S20-My00435	NCP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	S20-My00435	NCP	%	97			70-130	Pass	
Fluoranthene	S20-My00435	NCP	%	97			70-130	Pass	
Fluorene	S20-My00435	NCP	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-My00435	NCP	%	93			70-130	Pass	
Naphthalene	S20-My00435	NCP	%	96			70-130	Pass	
Phenanthrene	S20-My00435	NCP	%	91			70-130	Pass	
Pyrene	S20-My00435	NCP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	M20-My03413	NCP	uS/cm	640	590	7.4	30%	Pass	
pH (1:5 Aqueous extract at 25°C as rec.)	S20-Ap42641	CP	pH Units	3.4	3.4	Pass	30%	Pass	
% Moisture	S20-Ap42500	NCP	%	4.8	4.7	2.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ap41862	NCP	mg/kg	13	14	8.0	30%	Pass	
Cadmium	S20-Ap41862	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ap41862	NCP	mg/kg	50	55	10	30%	Pass	
Copper	S20-Ap41862	NCP	mg/kg	7.5	8.1	9.0	30%	Pass	
Lead	S20-Ap41862	NCP	mg/kg	10	12	18	30%	Pass	
Mercury	S20-Ap41862	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ap41862	NCP	mg/kg	9.2	10	11	30%	Pass	
Zinc	S20-Ap41862	NCP	mg/kg	20	20	3.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ap41953	NCP	mg/kg	< 0.5	< 0.5	<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
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
Andrew Sullivan	Senior Analyst-Organic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Gabriele Cordero	Senior Analyst-Inorganic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Jonathon Angell	Senior Analyst-Inorganic (QLD)
Scott Beddoes	Senior Analyst-Inorganic (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.

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

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: **George Black**

Report **716335-L**
Project name ADDITIONAL - KAMBALA
Project ID 58081
Received Date Apr 29, 2020

Client Sample ID			**TP2_1.5-2.0**	**BH12_3.0-3.5**
Sample Matrix			**US Leachate**	**US Leachate**
Eurofins Sample No.			**S20-Ap42646**	**S20-Ap42647**
Date Sampled			**Apr 21, 2020**	**Apr 20, 2020**
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	%	102	-
p-Terphenyl-d14 (surr.)	1	%	59	-
Heavy Metals				
Lead	0.01	mg/L	-	0.13
USA Leaching Procedure				
Leachate Fluid[C01]		comment	1.0	1.0
pH (initial)	0.1	pH Units	3.6	3.7
pH (off)	0.1	pH Units	5.1	5.1
pH (USA HCl addition)	0.1	pH Units	1.6	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.

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	Sydney	May 02, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Sydney	May 05, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	May 02, 2020	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

eurofins | Environment Testing

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

Australia

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

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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

Project Name: ADDITIONAL - KAMBALA
Project ID: 58081

Order No.:
Report #: 716335
Phone: 02 8245 0300
Fax:

Received: Apr 29, 2020 11:07 AM
Due: May 6, 2020
Priority: 5 Day
Contact Name: George Black

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						% Clay	Lead	pH (1:5 Aqueous extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA Site # 1254 & 14271													X	X
Sydney Laboratory - NATA Site # 18217							X	X	X	X	X	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	TP4_1.0-1.5	Apr 21, 2020		Soil	S20-Ap42641	X		X			X		X	X
2	TP2_1.5-2.0	Apr 21, 2020		Soil	S20-Ap42642							X	X	
3	BH12_3.0-3.5	Apr 20, 2020		Soil	S20-Ap42643							X	X	
4	BH12_2.5-3.0	Apr 20, 2020		Soil	S20-Ap42644				X				X	
5	HA06 0-0.1	Apr 07, 2020		Soil	S20-Ap42645							X	X	
6	TP2_1.5-2.0	Apr 21, 2020		US Leachate	S20-Ap42646				X	X				
7	BH12_3.0-3.5	Apr 20, 2020		US Leachate	S20-Ap42647		X			X				
Test Counts						1	1	1	2	2	1	3	5	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	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/L	< 0.01			0.01	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	98			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S20-Ap44666	NCP	%	97			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	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S20-My02054	NCP	mg/L	0.001	0.001	4.0	30%	Pass	
Pyrene	S20-My02054	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S20-Ap44650	NCP	mg/L	0.30	0.28	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
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
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (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.

#AU04_COCNSW

From: Asim Khan
Sent: Wednesday, 29 April 2020 11:11 AM
To: #AU04_Enviro_Sample_NSW; #AU04_COCNSW
Cc: Ursula Long
Subject: 5 DAY TAT Additional analysis FW: Eurofins Test Results - Report 714933 : Site KAMBALA (58081)

Additional analysis please on standard TAT.

Thanks,

Kind regards,

Asim Khan
Analytical Services Manager

Eurofins | Environment Testing
Phone : +61 2 9900 8432
Mobile: +61 429 051 456
Email : AsimKhan@eurofins.com

From: Ursula Long <UrsulaLong@eurofins.com>
Sent: Wednesday, 29 April 2020 11:07 AM
To: Asim Khan <AsimKhan@eurofins.com>
Subject: FW: Eurofins Test Results - Report 714933 : Site KAMBALA (58081)

From: George Black
Sent: Wednesday, 29 April 2020 11:07:08 AM (UTC+10:00) Canberra, Melbourne, Sydney
To: Ursula Long
Cc: Lillian Beevors
Subject: RE: Eurofins Test Results - Report 714933 : Site KAMBALA (58081)

EXTERNAL EMAIL*

Thanks Ursula,

Can I please request the following additional analysis on STD TAT:

- Heavy Metals, CEC, pH and Clay % on sample TP4 1.0-1.5
- Silica gel TRH and TCLP PAHs on TP2_1.5-2.0
- Silica gel TRH on sample HA06 0-0.1 (lab report 713049)
- Silica gel TRH and TCLP lead on BH12_3.0-3.5
- PAHs on BH12_2.5-3.0

Kind Regards

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	Lillian Beevors, George Black

Sample Login Details

Your reference	58081, Kambala
Envirolab Reference	241327
Date Sample Received	22/04/2020
Date Instructions Received	22/04/2020
Date Results Expected to be Reported	29/04/2020

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	11.2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBsin Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	On Hold
QC20200420								✓
QC20200421	✓	✓	✓	✓	✓	✓	✓	
QC20200421-2								✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 241327

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	Lillian Beevors, George Black
Address	Level 1, 50 Margaret St, Sydney, NSW, 2000

Sample Details

Your Reference	**58081, Kambala**
Number of Samples	3 Soil
Date samples received	22/04/2020
Date completed instructions received	22/04/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	29/04/2020
Date of Issue	27/04/2020

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Hannah Nguyen, Senior Chemist
Josh Williams, Senior Chemist
Lucy Zhu, Asbestos Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date extracted	-	23/04/2020
Date analysed	-	23/04/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	115

svTRH (C10-C40) in Soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date extracted	-	23/04/2020
Date analysed	-	24/04/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	92

PAHs in Soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date extracted	-	23/04/2020
Date analysed	-	23/04/2020
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	108

Organochlorine Pesticides in soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date extracted	-	23/04/2020
Date analysed	-	23/04/2020
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	91

PCBs in Soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date extracted	-	23/04/2020
Date analysed	-	23/04/2020
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCMX	%	91

Acid Extractable metals in soil		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date prepared	-	23/04/2020
Date analysed	-	23/04/2020
Arsenic	mg/kg	5
Cadmium	mg/kg	<0.4
Chromium	mg/kg	5
Copper	mg/kg	4
Lead	mg/kg	16
Mercury	mg/kg	<0.1
Nickel	mg/kg	2
Zinc	mg/kg	12

Moisture		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date prepared	-	23/04/2020
Date analysed	-	24/04/2020
Moisture	%	8.4

Asbestos ID - soils NEPM - ASB-001		
Our Reference		241327-2
Your Reference	UNITS	QC20200421
Date Sampled		21/04/2020
Type of sample		Soil
Date analysed	-	23/04/2020
Sample mass tested	g	684.01
Sample Description	-	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

Method ID	Methodology Summary
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	113	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	113	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	111	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	119	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	118	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	111	[NT]
naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	109	[NT]	[NT]	[NT]	[NT]	110	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			24/04/2020	[NT]	[NT]	[NT]	[NT]	24/04/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	105	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	91	[NT]
Surrogate o-Terphenyl	%		Org-020	98	[NT]	[NT]	[NT]	[NT]	113	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	126	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	100	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	111	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	95	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	95	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Date analysed	-			23/04/2020	[NT]	[NT]	[NT]	[NT]	23/04/2020	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	104	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

017983

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 58081	LABORATORY BATCH NO.:
PROJECT NAME: KAMBALA	SAMPLERS: [illegible] LiB
DATE NEEDED BY: STD	QC LEVEL: NEPM (2013)

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

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	ASBESTOS	HEAVY METALS	TRH/BTEX	PAHs	OCPs	PCBs	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
1	QA2020420	Soil	20/04/20		JAR + BAG										
2	QC2020421	↓	21/04/20	/	↓		x	x	x	x	x	x			
3	QC2020421-2	↓	↓		↓										

PLEASE SEND TO ENVIROLAB

ENVIROLAB

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

Job No: 241327

Date Received: 22/4/20
Time Received: 10:30
Received by: [illegible]
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [illegible] DATE: 20/04/20	CONSIGNMENT NOTE NO.	NAME: [illegible]	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 22/4/20	
		OF: JBS	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

Appendix E Statistical Analysis

	sports field
BH03_0-0.1	-
BH03_2.5-2.6	<0.5
BH04_0-0.1	<0.5
BH04_1.0-1.1	-
BH06_0.3-0.4	<0.5
BH06_3.0-3.1	-
BH07_0-0.1	<0.5
BH07_1.5-1.6	-
BH07-1.5-1.6	18
BH07_4.0-4.1	0.8
BH08_0-0.1	<0.5
BH08_3.5-3.6	-
BH09_0-0.1	-
BH09_1.5-1.6	<0.5
BH09_4.0-4.1	-
BH10_0-0.1	<0.5
BH10_1.0-1.1	-
BH11_0.5-1.0	<0.5
BH12_2.5-3.0	12
BH12_3.0-3.5	3
BH12_3.0-3.5	-
BH13_0.0-0.1	<0.5
BH14_0.0-0.1	<0.5
BH15_0.5-1.0	<0.5
BH16_0.0-0.1	<0.5
TP1_1.0-1.5	<0.5
TP2_0.0-0.1	-
TP2_1.5-2.0	11
TP2_1.5-2.0	-
TP3_0.0-0.1	<0.5
TP4_0.0-0.1	<0.5
QC20200421	<0.05
QA20200421	<0.5
TP4_1.0-1.5	-
TP5_0.5-1.0	<0.5
TP6_1.0-1.5	<0.5
TP7_0.0-0.1	<0.5
TP7_0.6-0.7	-
TP8_0.0-0.1	<0.5
TP8_0.5-0.6	-

	embankment
HA01_0-0.1	23
QC-01	4.8
QA-01	4.8
HA01_0.9-1.0	-
HA01_0.9-1.0	9
HA02_0-0.1	-
HA02_0.4-0.5	3.9
HA03_0-0.1	-
HA03_0.9-1.0	0.8
HA04_0-0.1	<0.5
HA04_1.4-1.5	-
HA05_0-0.1	-
HA05_1.0-1.1	<0.5
HA06 0-0.1	13
HA06 0-0.1	-
QA20200407-	<5
QC 20200407	3.2
HA07 0.2-0.3	2.3
HA08 0.2-0.3	5.6
HA09 0-0.1	0.7
HA10 0-0.1	<0.5
HA11 0.4-0.5	0.7
HA12 0-0.1	0.7
TP1_0.0-0.1	<0.5

Normal UCL Statistics for Uncensored Full Data Sets

User Selected Options

Date/Time of Computation	19-06-20 9:28
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%

Sportsfield

General Statistics

Total Number of Observations	26	Number of Distinct Observations	7
		Number of Missing Observations	15
Minimum	0.025	Mean	1.916
Maximum	18	Median	0.25
SD	4.492	SD of logged Data	1.465
Coefficient of Variation	2.344	Skewness	2.79

Normal GOF Test

Shapiro Wilk Test Statistic	0.441	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.92	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.452	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.174	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	3.421	95% Adjusted-CLT UCL (Chen-1995)	3.88
		95% Modified-t UCL (Johnson-1978)	3.501

Suggested UCL to Use
Data do not follow a Discernible Distribution, May want to try Nonparametric UCLs

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Embankments

General Statistics

Total Number of Observations	18	Number of Distinct Observations	12
		Number of Missing Observations	7
Minimum	0.25	Mean	4.222
Maximum	23	Median	2.4
SD	5.815	SD of logged Data	1.46
Coefficient of Variation	1.377	Skewness	2.347

Normal GOF Test

Shapiro Wilk Test Statistic	0.704	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.897	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.247	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.209	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	6.607	95% Adjusted-CLT UCL (Chen-1995)	7.287
		95% Modified-t UCL (Johnson-1978)	6.733

Suggested UCL to Use
Data appear Gamma, May want to try Gamma Distribution

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x Electronic Copy	Kambala School, c/- Sufian Supa'at – Carmichael Tompkins Property Group	25/06/2020

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	George Black	Matthew Bennett	Matthew Bennett	Draft for Client Review	25/06/2020

www.jbsg.com.au