Pells Sullivan Meynink

Environmental Site Assessment

14 Distribution Drive,
Orchard Hills, NSW

20 April 2021

60586/136769 (Rev 0)

JBS&G Australia Pty Ltd

www.jbsg.com.au

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Abbreviations

Term	Definition
ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
AST	Above Ground Storage Tank
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CLM Act	Contaminated Land Management Act 1997
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
DECCW	NSW Department of Environment, Climate Change and Water
DLWC	NSW Department of Land and Water Conservation
DP	Deposited Plan
DSI	Detailed Site Investigation
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
HBMS	Hazardous Building Material Surveys
JBS&G	JBS&G Australia Pty Ltd
LEP	Local Environmental Plan
NEPC	National Environment Protection Council
OCPs	Organochlorine Pesticides
OEH	Office of Environment and Heritage
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
POEO Act	Protection of the Environment Operations Act 1997
PSI	Preliminary Site Investigation
TRH	Total Recoverable Hydrocarbons

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Pells Sullivan Meynink (the client) to conduct an Environmental Site Assessment (ESA) for the property located at 14 Distribution Drive, Orchard Hills, NSW (the site). The site is legally identified as Lot 10 in DP 271141 and occupies an area of approximately 5 hectares (ha). The site location and site layout are presented on **Figures 1** and **2** respectively.

The site is currently zoned IN1 General Industrial under the *State Environmental Planning Policy (Western Sydney Employment Area) Amendment 2020*. The site is currently vacant, with plans to be developed for commercial/industrial purposes as a food manufacturing facility. It is understood that the client requires an ESA to support a Development Application (DA) for the proposed development.

The scope of works included; a desktop review of site history and background information, to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs); a detailed inspection of the site to confirm the desktop findings and identify the presence of AECs; development and documentation of a conceptual site model (CSM) based on the available information; a soil investigation comprising the installation of 11 boreholes completed in conjunction with a geotechnical investigation to characterise site soils for identified COPCs and laboratory analysis of representative soil samples for COPCs, with subsequent data evaluation against NSW EPA endorsed guideline values.

Based on the findings of this investigation and subject to the limitations presented in **Section 11**, JBS&G concludes the following:

- The site has historically been used for agricultural and rural residential purposes.
- The potential sources of contamination at the site included historic filling for site levelling purposes, use of the site for agricultural purposes and former structures potentially containing hazardous materials.
- Fill material was encountered at all sampling locations ranging in depth from 1.3-2.9 m bgs. The fill generally comprised gravelly silty clay of low plasticity with minimal anthropogenic inclusions. The fill material was underlain by natural brown and red silty clay of high plasticity to the maximum depth (11.5 m bgs) of the investigation.
- Representative samples of fill material and natural soils from the site were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, OCP/PCBs and asbestos. The reported concentrations of all contaminants were below the adopted criteria applicable to commercial / industrial land-use.
- Based on the findings of this investigation and subject to the limitations presented in **Section 10**, it is considered that the site is suitable for the proposed commercial land-use (HIL-D).

It is recommended during site redevelopment works a Construction Environmental Management Plan (CEMP) should be implemented which identifies typical site management controls and makes provisions for unexpected finds.

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Pells Sullivan Meynink (the client) to conduct an Environmental Site Assessment (ESA) for the property located at 14 Distribution Drive, Orchard Hills, NSW (the site). The site is legally identified as Lot 10 in DP 271141 and occupies an area of approximately 5 hectares (ha). The site location and site layout are presented on **Figures 1** and **2** respectively.

The site is currently zoned IN1 General Industrial under the *State Environmental Planning Policy (Western Sydney Employment Area) Amendment 2020*. The site is currently vacant, with plans to be developed for commercial/industrial purposes as a food manufacturing facility. It is understood that the client requires an ESA to support a Development Application (DA) for the proposed development.

This ESA has been developed in general accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) including the *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended 2013 (NEPC 2013[1]), and relevant Australian Standards.

1.2 Objectives

The objectives of the investigation are to characterise potential contamination at the site and assess the suitability of the site for the proposed use, or to make recommendations to enable such assessments to be made in the future.

1.3 Scope of Work

To achieve the objectives of the investigation, the following scope of works was conducted:

- A desktop review of site history and background information, to identify potential areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs);
- A detailed inspection of the site to confirm the desktop findings and identify the presence of AECs;
- Development and documentation of a conceptual site model (CSM) based on the available information;
- A soil investigation comprising the installation of 11 boreholes completed in conjunction with a geotechnical investigation to characterise site soils for identified COPCs;
- Laboratory analysis of representative soil samples for COPCs, with subsequent data evaluation against NSW EPA endorsed guideline values; and
- Preparation of this report documenting the methods and results of the investigation.

1.4 Proposed Development

It is understood that the site is to be redeveloped for commercial/industrial purposes that will comprise a large warehouse building constructed at grade with outdoor parking and landscaped areas in accordance with the concept plans in **Appendix K**.

[1] *National Environmental Protection (assessment of Site Contamination) Measure 1999* (as amended 2013), National Environment Protection Council, 2013 (NEPC 2013).

2. Site Condition and Surrounding Environment

2.1 Site Identification

The site location is shown on **Figure 1**. The site layout and associated cadastral boundaries are shown on **Figure 2**. The site details are summarised in **Table 2.1** and described in detail in the following sections.

Table 2.1 Summary Site Details

Lot/Deposited Plan (DP)	Lot 10 in DP 271141
Address	14 Distribution Drive, Orchard Hills, NSW.
Local Government Authority	Penrith City Council
Approximate MGA Coordinates (GDA94 - MGA56)	E: 281670 N: 6213569
Site Zoning	IN1 General Industrial - State Environmental Planning Policy (Western Sydney Employment Area) Amendment 2020
Current Use	Currently vacant, planned commercial/industrial
Previous Use	Agricultural/ Rural
Site Area	Approximately 5.1 hectares

2.2 Site Description

A detailed site inspection was completed by an experienced and appropriately qualified JBS&G environmental consultant on 26 March 2021.

The site was bound by Mamre Road to the east, a and agricultural/rural residential land to the north, part of Distribution Drive and commercial property to the west, and commercial property to the south.

The site was cleared, mostly unsealed and vacant where there was evidence of filling and levelling activities across the extent of the site. Shipping containers were being stored on bitumen paved ground in the southern extent of the site.

There was no evidence of scalding on exposed surface soils. Surface water was limited to a dam situated in the north-western portion of the site.

There were no overt indicators of potential land contamination such as ground surface staining/discolouration, odours, bulk chemical storage, industrial or illicit processes (such as drug manufacture, waste incineration, etc.) or fly-tipped materials.

2.3 Surrounding Land-use

Surrounding land-uses at the time of site inspection are described following:

- North: Recently modified driveway, and drainage/ storm culvert, providing access to 579A Mamre Road (October 2020 (Nearmap)). Agricultural/ residential properties were located north of the access driveway.
- East: vacant land comprising Lot 12 DP271141, then a small grassed median strip with drainage culvert, terrain sloping down to Mamre Road.
- South: Concreted commercial property (Ron Crouch Transport, Snack Brands corporate office)
- West: Distribution Drive, concrete paved commercial properties including warehousing and suppliers (Orora Speciality Packaging), building materials supplier (Knauf Orchard Hills – Distribution centre), steel distributor (Voestalpine High Performance Metals), fruit supplier (N&A Group), and supply and logistics (ACR Supply Partners).

2.4 Topography

Review of 2 m contour information available from NSW Spatial Services, indicated that site generally sloped east to west, with elevation ranging from approximately 36 m to 33 m Australian Height Datum (AHD). The highest elevation was in the southern part of the site, in an area of possible filling.

2.5 Geology and Soils

A review of the Penrith 1:100 000 Geological Series Sheet (DME 1991[2]) indicated that most of the site is underlain by middle Triassic aged Bringelly Shale from the Wianamatta Group. This material is characterised by fine to medium grained lithic sandstone, shale, carbonaceous claystone, claystone and laminite, with rare coal and tuff. The western extent of the site may be underaling by the contact between Bringelly Shale Quaternary alluvium, comprising fine grained sand silt and clay.

Reference to the online ESPADE 2.0 tool hosted by the NSW Office of Environment and Heritage (OEH 2021[3]) indicates that most of the site is present within the Blacktown Soil Landscape Group. This Landscape Group is characterised by:

- **Landscape**: Gently undulating rises on Wianamatta Group shale. Local relief to 30m; slopes are usually <5%. Broad rounded crests and ridges with gently inclined slopes. Almost completely cleared eucalypt woodland, open-forest and tall open-forest (wet sclerophyll forest).
- **Soils**: Shallow to deep (<150 cm) Red Podzolic Soils and Brown Podzolic Soils on crests, upper slopes and well-drained areas; deep (150-300 cm) Yellow Podzolic Soils and Soloths on lower slopes and in drainage depressions and localised areas of poor drainage.
- **Limitations**: Moderately reactive, highly plastic subsoils, low soil fertility.

The western edge of the site falls within the South Creek Soil Landscape Group. This Landscape Group is characterised by:

- **Landscape**: Consists of floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Usually flat with incised channels; mainly cleared.
- **Soils**: often very deep layered sediments over bedrock or relict soils. Where pedogenesis has occurred Structured Plastic Clays or Structured Loams in and immediately adjacent to drainage lines; Red and Yellow Podzolic Soils are most common terraces with small areas of Structured Grey Clays, leached clays and Yellow Solodic Soils.
- **Limitations**: Moderately reactive, highly plastic subsoils, low soil fertility.

2.6 Hydrology

The closest major water body was South Creek located ~650 metres west of the site. From review of the historical aerial photographs, drainage culverts historically cut through site towards South creek.

As discussed in **Section 2.2**, the site is predominantly unsealed, with drainage culverts offsite (to the north and east) and onsite (western boundary), with a small surface water dam present in the north west of the site. As such, precipitation falling onto the site is expected to infiltrate surface soils where exposed at a rate reflective of the permeability of the underlying soils. Excess water, especially during periods of heavy or prolonged rainfall, is expected to follow the topographic gradient and be collected by the dam and associated drainage systems towards South Creek.

[2] Penrith Geological Series Sheet 9030 (1st Edition), NSW Department of Minerals and Energy, 1991 (DME 1991)
[3] *ESPADE 2.0*. NSW Office of Environment and heritage, accessed 23 March 2021 (OEH 2021)

2.7 Hydrogeology

A search for registered groundwater bore information was undertaken on Water NSW[4] website and results are included as **Appendix L**. A total of 3 registered bores were located within a 500m radius of the site boundary, and relevant information for these registered bores is summarised in **Table 2.2**.

Table 2.2: Registered Groundwater Bore Search Summary

Bore ID	Use	SWL (m bgs)	Final Drilled Depth (m)	Approximate distance/ direction from site centre	Lithology
GW110029	Monitoring	-	0.75	260 m South East	0.0-0.2m: Topsoil 0.2-0.50: Silty Clay 0.5-0.75: Heavy Clay
GW110030	Monitoring	-	0.75	350m South East	0.0-0.2m: Topsoil 0.2-0.60: Silty Clay 0.6-0.75: Heavy Clay
GW110031	Monitoring	-	0.75	410m South East	0.0-0.2m: Topsoil 0.2-0.40: Silty Clay 0.4-0.75: Heavy Clay

Based on the reported geology, topography and site observations, groundwater is expected to flow generally north-west towards South Creek, in line with regional topography

2.8 Acid Sulfate Soils

Review of the index for Acid Sulfate Soil (ASS) Risk Maps (DLWC 1997[5]) indicates that there are no ASS risk maps available for Orchard Hills.

Based on review of geology maps, soil maps and site topography it is unlikely that acid sulfate soils would be present on-site and, therefore, nNo further consideration of requirements for the management of acid sulfate soil is required.

2.9 Salinity

Review of the regional salinity potential map (DIPNR 2003[6]) indicated that the site is located in an area of moderate to high salinity potential, consistent with the low-lying topography underlain by Wianamatta shales.

The South Creek soil landscape found in the western part of the site commonly experiences saline outbreaks due to high run-on and low local relief. Due to high clay content in the sub-soils, these landscapes tend to be imperfectly to poorly drained.

The definition provided on the map indicates moderate salinity potential is where scattered areas of scalding and indicator vegetation have been noted but no concentrations have been mapped. High salinity potential areas are those where conditions are similar to areas of known salinity, that is, where aerial photography interpretation and field observations have confirmed more than one of the following:

- scalding
- salt efflorescence
- vegetation dieback
- salt tolerant plant species

[4] Water NSW website, https://realtimedata.waternsw.com.au/, accessed 16 September 2020
[5] *Acid Sulfate Soil Risk Maps* (Edition 2), NSW Department of Land and Water Conservation (DLWC 1997)
[6] Salinity Potential in Western Sydney 2002, Department of Infrastructure, Planning and Natural Resources (DIPNR, 2003).

- waterlogging.

Areas of high salinity potential are typically encountered in lower slopes and drainage systems where water accumulation is high.

Urban infrastructure such as roads, buildings, water and sewage pipes can be degraded by urban salinity to such an extent that they have to undergo expensive repair or premature replacement.[7]

During the site inspection, no evidence of scalding, salt efflorescence or vegetation dieback were noted during the site inspection.

[7] Introduction to Urban Salinity, DIPNR, 2006.

3. Assessment of Background Records and Site History

3.1 EPA Records

A search of the NSW EPA databases were undertaken for the site and immediate surrounding properties. EPA records are provided in **Appendix F**. The search was done through the following public registers:

- NSW EPA *Protection of the Environment Operations Act 1997* (POEO Act) public register of licence, applications and notices (maintained under Section 308 of the POEO Act).
    - No prevention, clean-up or prohibitions notices has been issued under the POEO Act for the site.
    - There are multiple Environment Protection Licenses (EPLs) nearby in the Erskine Park Industrial Estate east of Mamre Road. Licenses of particular interest include a currently operating landfill (approximately 1100 m northeast of the site), and an associated waste transfer centre (approximately 700 m east of the site). Given that all these licenses relate to premises over 500 m from the edge of the site and the presence of a water course between these premises and the site, they are considered to have a low potential to impact the site. Records of these licenses are included in **Appendix F**.
- NSW EPA contaminated land public register of record of notices (under Section 58 of the *Contaminated Land Management Act 1997* (CLM Act)).
    - No notices have been issued under the CLM Act for the site and immediate surroundings.
- NSW contaminated sites notified to the EPA (under Section 60 of the CLM Act).
    - The site or immediate surrounding are not on the list of NSW contaminated sites notified to the EPA.
    - The closest premise on the notified sites register is 25-55 Templar Road (Bluescope – Western Sydney Service Centre), 1600 m northeast of the site. Regulation of this premise under the CLM Act is not required. Given the status of this notification and the distance from site, this property is considered to have a low potential to impact the site.
- Per- and polyfluoroalkyl substances (PFAS) Investigation Program.
    - The site is not listed by EPA on the NSW Government PFAS Investigation program. The closest PFAS investigation area identified by the EPA is the Kemps Creek NSW Rural Fire Service (245 Devonshire Road, Kemps Creek), located approximately 10 km south of the site. Given the distance of the Rural Fire Service property, it is unlikely any PFAS related impacts at the property pose a contamination risk to the site.

3.2 Australian and NSW Heritage Register

A search of the Australian Heritage Trust database did not identify any heritage listed items at the site or surrounding area. A search of the NSW Heritage database identified 'Leeholme Horse Stud Rotunda', located ~1.2km north west of the site. Given the location of this heritage item is north of the South Creek it is unlikely to cause any conflict with operations or construction on site.

Both Australian Heritage Trust and NSW Heritage information are included in **Appendix G.**

3.3 Section 10.7 Planning Certificate Search

Section 10.7 (2) and (5) Planning certificates were obtained for Lot 10 DP 271141from Penrith City Council (**Appendix E**). The planning certificates included the following pertinent information regarding the site:

- The site is zoned as IN1 General Industrial under State Environmental Planning Policy (Western Sydney Employment Area) Amendment 2020
- The land is affected by the Penrith City Council Asbestos Policy, but is not affected by policy for landslip, bushfire, tidal inundation, subsidence or any other risk (other than flooding);
- The land is within a Mine subsidence district;
- The land is classified by council as being bushfire prone.
- Council has not been notified by NSW Fair Trading of any residential premises on this land being identified in the Loose-Fill Asbestos Insulation Register;
- The land or part of the land is not subject to flood related development controls for the purposes of dwelling, dual occupancies, multi dwelling housing or residential buildings. The land is not subject to riverine flood related development controls;
- The land does not include or comprise critical habitat, is not in a conservation area and is not biodiversity certified;
- The land is not in a Heritage Conservation Area and no Items of environmental heritage are situated on the land;
- The land is not within an investigation area or remedial site, subject to a management or remediation order, subject of an approved voluntary management or remediation proposal, or subject of a site audit statement within the meaning of the CLM Act 1997.

3.4 Aerial Photographs

Historical aerial photographs provided by NSW Spatial Services or Near-Map Imagery were reviewed for this assessment (**Appendix C**). Observations from the aerial photograph review are presented in **Table 3.1** following.

Table 3.1: Aerial Photograph Review

Year	Observations
1956	Site mostly cleared of vegetation bar some trees visible in the centre and northwestern corner of the site. Possibly residential buildings and associated sheds on neighbouring properties to the north, north east and east. A dirt road or track is visible adjoining the northern boundary of the site, with Mamre Road visible to the east. A portion of a surface water dam is present in the south east corner of the site, with a small surface water dam also visible to the south east. Most o the surrounding land comprises cleared vacant land with scattered trees, with more shrubs and trees on land to the east of Mamre Road.
1965	With the exceptions of some possible leading from the surface water dam in the southeast of the site to the northwest, the site appears largely unchanged from the 1965 aerial photograph. What appear to be a series of small, shallow ponds are vsible southeast of the small surface water dam south-east of site. The remainder of the site and the surrounding land appeared largely unchanged from the 1956 aerial photograph.
1975	The site appears largely unchanged from the 1965 aerial photograph. There are lines visible across the site that may indicate grass slashing Residential structures on neighbouring property to the north have been demolished. Possible earthen wall in centre of dam partially onsite. Otherwise, minimal change from 1965 imagery.
1984	The site appears largely unchanged from the 1975 aerial photograph. Structure on neighbouring property, due east of the site, has been demolished.
1991	The site appears largely unchanged from the 1984 aerial photograph.

Year	Observations
	With the exception that Mamre Road appears to have been upgraded the surrounding land appears largely unchanged from the 1984 aerial photograph.
2005	The site appears unchanged from the 1991 aerial photograph. Trees have been planted along to access road directly north of site. Land to then northeast, east of Mamre Road is in the process of being developed, with a roundabout, and new large structure visible.
2010	The site appears unchanged from the 2005 aerial photograph. Residential structures have been constructed on neighbouring land to the north. Land to the east of od Mamre Road has been developed and is in the process of being for commercial/industrial purposes with large warehouse buildings present. Surafe water dams to the south are no longer present, with this land being having been developed for commercial use.
2020	The dam in the south east corner has been filled and a surface water dam is present in the northwest corner of the site. The site appears as described in **Section 2.2**. Surrounding land to the west and south have been developed for commercial purposes, and Distribution Drive has been constructed.. Roadworks are visible he adjacent to the driveway north of the site. The roadoroks possibly relate to construction of a drainage culvert.

3.5 Historical Title Review

A copy of the historical title's documentation obtained for the site is provided in **Appendix D**. A summary of the search findings is provided below.

The land was held by a private landowner (Robert Stewart Hamilton) from 1900, until the lots were transferred to Joseph Alexander Mackay (Company Manager) in 1947. The same year the land was transferred to Franklin Richard Rooke (Grazier), who maintained possession until 1949, when the land was transferred to Cecil Auckland Adams (Manufacturers Representative). From 1955 to 1962 the site was owned by Mr Malcolm John Walker (Farmer) and his wife Mrs Alma Marin Walker, when ownership was transferred of Mandalong Investments Pty Limited (Livestock and Investment). From 2015 until currently the site is owned and managed by The Trust Company (Australia) Limited

The site was leased to Arthur Macquarie Weymark (Fruit Merchant) from 1936 until 1942, then leased to Farlows Limited from 1942 to 1947.

3.6 Integrity Assessment and Summary of Site History

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

The site appears to have been predominantly used for agricultural and rural residential use.

4. Conceptual Site Model (CSM)

4.1 Potential Areas of Environmental Concern

Based on the history review and observations made during the JBS&G inspection of the site, areas of environmental concern (AECs) have been identified and are presented in **Table 4.1**.

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

Area of Environmental Concern (AEC)	Primary Contaminants of Potential Concern (COPC)
Fill of unknown origin used to level the site	Heavy metals, total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and asbestos
Historical use of the site for agricultural purposes	Heavy metals, OCPs and asbestos

4.2 Potentially Contaminated Media

Each of the AECs and corresponding COPCs identified in **Section 4.1** have the potential to impact soil, groundwater and/or soil gas (where volatile constituents are identified) underlying the site.

Where fill material is present to depth, or soil has been disturbed, there is a likelihood that environmental impact may be present at depth, consistent with the depth of the disturbance. Anthropogenic materials are commonly present in impacted fill materials and can be used as an indication of the depth of disturbance. Where fill material impacted with chemical based contaminants are identified, there is a likelihood the impact may have migrated laterally and vertically below the fill material.

With the exception of asbestos, COPCs identified in **Table 4.1** for the site have the potential to migrate from shallow soils into groundwater – particularly more soluble COPCs.

4.3 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 (surface soils or at depth); and
- The site topography, geology, hydrology and hydrogeology.

The COPCs identified as part of the site history review and site inspection are generally in solid form (e.g. asbestos, PAHs and metals), liquid form (e.g. TRH, BTEX, OCPs and PCBs) or gaseous form (e.g. BTEX, volatile TRH and semi-volatile PAHs).

The potential solubility of chemical contaminants in soil, in addition to the rate of surface water intrusion, perched water seepage and groundwater movement across the site will influence the potential for migration of soil and groundwater based contamination within and from the site. Should impacted soils be identified at the site, then the corresponding risk to groundwater as well as the potential for offsite migration of contaminants in groundwater will require consideration.

The potential for off-site migration of vapours will only be relevant where volatile constituents are identified at significant levels. These constituents can migrate laterally from the site through diffusive/advective processes as well as through preferential pathways (refer to **Section 4.5**). Should elevated levels of vapours be identified, then the potential off-site migration of these constituents will require further consideration.

4.4 Potential Human and Ecological Receptors and Exposure Pathways

Table 4.2 summarises potential human receptors and associated exposure pathways for the site, based on the range of exposure scenarios that may occur under the proposed site use.

Table 4.2: Summary of Potential Human Exposures

Receptor	Location	Media	Potential Exposure Pathways
Commercial Worker (adult)	Commercial building	Soil	Inhalation (vapours)
		Groundwater	Inhalation (vapours)
	Outside areas	Soil (only relevant in unpaved areas)	Inhalation (particulates) Oral Dermal
Construction worker or intrusive maintenance worker (short duration)	Construction areas/ Excavations	Soil	Inhalation (vapours and particulates) Oral Dermal
		Groundwater	Inhalation (vapours) Oral (infiltrating seepage water) Dermal (infiltrating seepage water)

There is limited potential for ecological receptors to access site soils given that the site will be predominantly covered in hardstand as part of site development. Possible off-site ecological receptors are limited to potential impacts associated with groundwater migrating from the site into South Creek which in turn discharges into the Hawkesbury River. Off-site ecological receptors are therefore limited to the organisms living within South Creek and the Hawkesbury River and can be identified from the water quality objectives (WQO) for the Hawkesbury River catchment and include 'aquatic ecosystems'.

4.5 Preferential Pathways

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

Man-made preferential pathways are present throughout or adjacent to the site, generally associated with areas of previously disturbed fill material and service easements. Where environmental impact (particularly in liquid or gaseous form) is observed within proximity to these identified preferential pathways, further consideration to the potential migration of these impacts will be required.

5. Sampling, Analytical and Quality Plan

5.1 Data Quality Objectives

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

5.2 State the Problem

The objective of the investigation is to characterise potential contamination at the site, and to assess whether potential contamination from historical activities at the site may pose an unacceptable risk to future receptors for the proposed land use, or to make recommendations to enable such assessments to be made. Based on **Section 4**, a potential for contamination has been identified at the site, which requires further assessment in order to meet the objectives of the assessment.

5.2.1 Identify the Decision

The decisions required to be made for the investigation are:

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

5.2.2 Identify Inputs to the Decision

The following inputs are required in order to make the stated decisions:

- A review of available historical information and environmental setting of the site;
- A detailed site inspection;
- Soil sampling from boreholes to assess for the presence of potential chemical COPCs and asbestos in site soils;
- Laboratory analysis data for COPCs;
- Site assessment criteria for potentially impacted media for COPCs as appropriate to potential future land uses; and
- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison by assessment of quality assurance / quality control as per the data quality indicators established in **Section 5.2.5**.

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

5.2.3 Define the Study Boundaries

The study boundaries have been defined laterally as the extent of the site (Lot 10 in DP 271141) as defined in **Figure 2**. The vertical extent of the assessment is limited to a maximum depth of 11.5 m bgs as the final depth of the deepest borehole completed for the investigation.

As a result of the project objectives, the temporal study boundaries were limited to the period of assessment works completed in April 2021. Due to the nature of the potential contamination

identified, seasonality is not considered to be significant with respect to assessing risks to future site receptors.

5.2.4 Develop a Decision Rule

The decision rules adopted to answer the decisions identified in **Section 5.1.2** are summarised in **Table 5.1**.

Table 5.1: Summary of Decision Rules

Decision Required to be Made	Decision Rule
1. Are there any unacceptable risks to likely future onsite receptors from soils?	Soil analytical data was compared against EPA endorsed criteria. Statistical analyses of the data in accordance with relevant guidance documents was undertaken where appropriate, to facilitate the decisions. The following statistical criteria were adopted with respect to soils: Either: the reported concentrations were all below the site criteria; Or: the 95% upper confidence limit (UCL) of the average concentration for each analyte was below the adopted site criterion ; no single analyte concentration exceeded 250% of the adopted site criterion; and the standard deviation of the results was less than 50% of the site criterion. If the statistical criteria stated above were satisfied, the answer to the decision was No. If the statistical criteria were not satisfied, the answer to the decision was Yes.
2. Are there any issues relating to local area background soil concentrations that exceed the appropriate soil criteria?	If the 95% UCL of natural soils exceeded published background concentrations (NEPC 2013), the answer to the decision was Yes. Otherwise the answer to the decision was No.
3. Are there any impacts of chemical mixtures?	Are there more than one group of contaminants present which increase the risk of harm? If there is, the answer to the decision was Yes. Otherwise, the answer to the decision was No.
4. Are there any aesthetic issues at the site?	If there are any fragments of asbestos containing material (ACM) or other foreign anthropogenic materials on or in the ground, any unacceptable odours or soil discolouration, the answer to the decision was Yes. Otherwise, the answer to the decision was No.
5. Is there any evidence of, or potential for, migration of contaminants from the site?	Based on assessment results, was there any evidence of, or the potential for, migration of unacceptable contaminant concentrations to migrate from the site? If yes, the answer to the decisions was Yes. Otherwise, the answer to the decision was No.
6. Is a site management strategy required?	Was the answer to any of the above decisions Yes? If yes, a site management strategy is required. If no, a site management strategy is not required. The requirement for site management can be precluded by remediation of the areas of environmental impact that causes a site decision to be yes.

5.2.5 Specify the Limits on 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, DEC (2007), appropriate indicators of data quality (DQIs used to assess quality assurance / quality control) and standard JBS&G procedures for field sampling and handling.

To assess the usability of the data prior to making decisions, the data will be assessed against pre-determined Data Quality Indicators (DQIs) established for the project as discussed below in relation to precision, accuracy, representativeness, comparability and completeness (PARCC parameters). The acceptable limit on decision error is 95% compliance with DQIs.

The DQIs and data assessment criteria are summarised as presented in **Table 5.2**.

- **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** – expresses the appropriateness of the chosen field and laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 5.2: Summary of DQIs

Data Quality Objectives	Frequency	Data Quality Indicator
Precision		
Blind duplicates (intra laboratory)	1 / 20 samples	<50% relative percent difference (RPD)[1]
Blind duplicates (inter laboratory)	1 / 20 samples	<50% RPD
Accuracy		
Surrogate spikes	All organic samples	70-130% recovery
Laboratory control samples	1 per lab batch	70-130% recovery
Matrix spikes	1 per lab batch	70-130% recovery
Laboratory duplicates	1 per lab batch	<30% RPD
Representativeness		
Sampling appropriate for media and analytes		-[2]
Samples extracted and analysed within holding times.	-	Soil Organics (7-14 days), inorganics (6 months)
Trip spike (BTEX only)	1 per sampling event	70-130% recovery
Rinsate blank	1 per sampling event	<LOR
Method blank	1 per lab batch	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All samples
Standard analytical methods used for all analyses	All Samples	NATA accredited methods

Data Quality Objectives	Frequency	Data Quality Indicator
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples[2]
Limits of reporting appropriate and consistent	All Samples	All samples[2]
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples[2]
Appropriate documentation	All Samples	All samples[2]
Satisfactory frequency and result for QC samples	All QA/QC samples	95% compliance
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All samples	LOR ≤ site assessment criteria

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

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

5.2.6 Optimise the Design for Obtaining the Data

The purpose of this step is to identify a resource-effective field investigation sampling design that generates data that are expected to satisfy the criteria specified in the preceding steps of the DQO process. This step provides a general description of the activities necessary to generate and select data collection designs that satisfy decision performance criteria.

Based on the objectives of the assessment, a generally systematic fill and soil sampling program was undertaken in conjunction with a geotechnical investigation. The soil sampling program comprised sampling from a 150 mm auger advanced using a drill rig. The program was designed to characterise the identified COPCs (both chemical and asbestos) across the extent of the site as shown on **Figure 3**.

It is noted that the completed sampling density (of 11 locations) is less than that specified in EPA (1995) sampling design guidelines, which indicates that for sites of approximately 5 ha, a minimum of 55 systematic soil sampling locations are recommended. However, based on the site history in which limited point sources of potential contamination were identified (as per **Section 4**), it is considered that the reduced sampling density will suitably meet the objectives of the assessment in the context of the proposed development.

Noting the site geology (clay) and history, intrusive groundwater investigations were not considered to be required. An assessment of risk to groundwater was therefore undertaken, based on soil analytical data and the overall geological conditions encountered at the site. Similarly, an assessment of soil vapour was not considered to be required based on the absence of any significant sources of volatile impacts (e.g. bulk chemical storage) at the site.

5.3 Soil Sampling Methodology

Selected soil samples were collected by auger (150 mm diameter) advanced using a drill rig. Within boreholes, soil samples were generally collected at depths from the surface (0-0.1 m) and then at 0.5-1.0 m intervals to a maximum depth of 11.5 m below ground surface (m bgs) or 0.5 m into natural materials, whichever was shallower. During the collection of soil samples, a minimum of 10L of material was inspected from each distinct fill/soil layer and features such as seepage, discolouration, staining, odours and other indicators of contamination were noted on the borehole logs (**Appendix B**).

Collected samples were immediately transferred to laboratory supplied sample jars and bags (for asbestos analysis). The sample jars were 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. Preservation of the primary soil and QA/QC samples obtained during this investigation was completed in accordance with the protocols outlined in NEPC 2013. Based upon field observations, samples were analysed in accordance with the laboratory schedule in **Table 5.3**.

Not all samples collected were analysed. All samples remain at the primary laboratory for a period of two months for possible future analysis (subject to holding times), if required, following the receipt of sample results.

5.3.1 Duplicate Sample Preparation

At selected sample points sufficient soil was collected to provide a primary, blind (intra-lab) duplicate and split (inter-lab) duplicate sample.

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

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

5.4 Analytical Methodology

JBS&G contracted Eurofins Environment Testing (Eurofins) as the primary laboratory, with Envirolab Services (Envirolab) as the secondary laboratory. Both laboratories are NATA registered for the required analyses. In addition, the laboratories were required to meet JBS&G's internal QA/QC requirements.

Table 5.3: Analytical Schedule

Sample Type	No. of Sampling Locations	Analyses (exc. QA/QC)
Soil	11 locations	Heavy metals – 13 samples PAHs – 12 samples TRH/BTEX – 12 samples OCP/PCBs – 14 samples Asbestos – 13 samples

6. Assessment Criteria

6.1 Soil Assessment Criteria

Soil data collected on site was compared to health based criteria derived from:

- Health investigation levels for commercial / industrial land use (HIL-D) as provided in National Environment Protection (Assessment of Site Contamination) Measure, 1999 (as amended 2013), National Environment Protection Council (NEPC 2013);
- Soil health screening levels for vapour intrusion for TRH, BTEX and naphthalene for sand based soils (based on the presence of coarse fill based soils), surface depth and commercial / industrial land-uses provided in NEPC (2013); and
- Aesthetic impacts have been interpreted by on-site observations of indicators of soil staining and/or ACM and/or other anthropogenic materials.

The health based soil assessment criteria are summarised in **Table 6.1** and **6.2** following.

Table 6.1: Chemical Contaminants in Soil Health Based Assessment Criteria (all units in mg/kg)

	Limit of Reporting (LOR)	Laboratory Method	Health Based Assessment Criteria Commercial / Industrial (HIL-D)
METALS			
Arsenic	2.0	ICP-AES (USEPA 200.7)	3000
Cadmium	0.4	ICP-AES (USEPA 200.7)	900
Total Chromium [1]	1.0	ICP-AES (USEPA 200.7)	3600[1]
Chromium (VI)	1.0	ICP-AES (USEPA 7189)	3600
Copper	1.0	ICP-AES (USEPA 200.7)	240,000
Nickel	1.0	ICP-AES (USEPA 200.7)	6000
Lead	1.0	ICP-AES (USEPA 200.7)	1500
Zinc	1.0	ICP-AES (USEPA 200.7)	400,000
Mercury (inorganic)	0.05	Cold Vapour ASS (USEPA 7471A)	730
TRH (clay, 0 to <1m depth)			
F1 C_6-C_{10}	20	Purge Trap-GCMS (USEPA8260)	260
F2 >C_{10}-C_{16}	50	Purge Trap-GCMS (USEPA8260)	NL[2]
BTEX (clay, 0 to <1m depth)			
Benzene	0.1	Purge Trap-GCMS (USEPA8260)	3
Toluene	0.1	Purge Trap-GCMS (USEPA8260)	NL
Ethylbenzene	0.1	Purge Trap-GCMS (USEPA8260)	NL
Total Xylenes	0.3	Purge Trap-GCMS (USEPA8260)	230
Naphthalene	0.1	Purge Trap-GCMS (USEPA8260)	NL
OCPs			
DDT + DDD + DDE	0.3	GCECD (USEPA8140,8080)	3,600
Aldrin + Dieldrin	0.2	GCECD (USEPA8140,8080)	45
Chlordane	0.1	GCECD (USEPA8140,8080)	530
Endosulfan	0.3	GCECD (USEPA8140,8080)	2,000
Endrin	0.1	GCECD (USEPA8140,8080)	100
Heptachlor	0.1	GCECD (USEPA8140,8080)	50
Hexachlorobenzene	0.1	GCECD (USEPA8140,8080)	80
Methoxychlor	0.1	GCECD (USEPA8140,8080)	2,500
PAHs			
Carcinogenic PAHs (as B(a)P TEQ)	0.5	GCMS (USEPA8270)	40
Total PAHs	0.5	GCMS (USEPA8270)	4,000
PCBS			
PCBs (total)	0.5	GCECD (USEPA8140,8080)	7

1. Total chromium results used as an initial screening tool for chromium (VI).
2. NL -denotes 'Not limiting'

3. For TRH fractions – health screening levels applicable to soils at a depth of 0 m to <1 m have been applied as screening criteria to this assessment.

Asbestos in soil thresholds adopted for the site assessment are nominated in **Table 6.2** below.

Table 6.2: Asbestos in Soil Health Based Assessment Criteria (all units in % w/w)

	Health Screening Level (w/w)
Form of Asbestos	**Commercial/Industrial (D)**
Bonded ACM	0.05 %
Fibrous asbestos or asbestos fines[3]	0.001 %
All forms of asbestos	No visible ACM for surface soil (0 – 0.1 m bgs).

Generic, conservative ecological investigation levels (EILs) for metals have been adopted for this ESA. It is noted that due to the clayey nature of the site soils, site specific criteria would likely be much higher than the generic values adopted for this investigation. Generic EILs are summarised in **Table A** in **Appendix A**.

As detailed in **Section 5.2.6**, intrusive groundwater and soil vapour investigations were not considered to be warranted at this stage based on the site geology and lack of any significant sources of volatile impacts (e.g. bulk chemical storage) identified in the site history (**Section 3**).

7. Quality Assurance / Quality Control

Data quality indicators (DQIs) have been calculated as per the requirements of **Table 5.2** and are summarised in **Table 7.1** following. Laboratory reports are provided as **Appendix H**, with summarised QA/QC results presented in **Appendix I**.

Table 7.1: Summary of Quality Assurance / Quality Control Assessment

Data Quality Indicator	Frequency	Results Reported	DQI met
Precision			
Blind duplicates – soil	1/13	0-42 % RPD	Yes
Split duplicates – soil	1/13	0-95 % RPD	See discussion below
Accuracy			
Surrogate spikes –soil	All samples for organic constituent analysis	58-132 % recovery	See discussion below
Laboratory control samples	-	70-133 % recovery	See discussion below
Matrix spikes	-	70-130 % recovery	Yes
Representativeness			
Sampling appropriate for media and analytes	All media	All sampling appropriate	Yes
Samples extracted and analysed within holding times.	-	All samples extracted and analysed within holding times	See discussion below
Method blank	All analytes	<LOR	Yes
Field rinsate blank	All analytes	<LOR	Yes
Trip blank Trip Spike	1/sampling event 1/sampling event	<LOR 70-130% recovery	Yes
Comparability			
Standard operating procedures for sample collection & handling	All samples	Standard procedures for all sampling	Yes
Standard analytical methods used for all analyses	All samples	Standard analytical methods	Yes
Consistent field conditions, sampling staff and laboratory analysis	All works	Consistent field staff and consistent field and laboratory conditions	Yes
Completeness			
Sample description and COCs completed and appropriate	All samples	Field documentation and COC provided and completed	Yes
Appropriate documentation	All works	Documentation provided and completed	Yes
Satisfactory frequency and result for QC samples	All samples	See discussion below	Yes
Data from critical samples is considered valid	-	Critical samples valid	Yes
Sensitivity			
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All samples	LORs appropriate and generally consistent	Yes

7.1 Discussion of QA/QC Results

The results of QA/QC samples outside the acceptance criteria are discussed below.

7.1.1 Precision

Soil Duplicates

Soil blind and split duplicates were collected at a rate of greater than 1 per 20 primary samples for all class of chemical compounds analysed. The resultant RPDs were all within the preferred range with the exception of a limited number of heavy metal, TRH and PAH compounds, which is considered to be a result of the relatively low concentrations of the compounds reported in the samples and the difficulty in obtaining homogenous soil samples in undisturbed sample types. As a conservative measure, the highest reported concentration (which in turn were well below the adopted criteria) of each constituent at each location will be considered when interpreting the results of the investigation.

7.1.2 Accuracy

Surrogate Spikes

Soil surrogate spikes were conducted on all samples submitted for organic constituent analysis and most recoveries were reported within the JBS&G acceptable range (70-130 %). A limited number of surrogates (of BTEX) were reported outside the JBS&G acceptable range, but were within the laboratories acceptable limits (typically between 50 and 150 % recovery) under the laboratory's NATA accreditation. Low surrogate recoveries can indicate the reported concentrations are less than the actual concentrations – where it is noted that no BTEX compounds were reported above the laboratory LOR in any primary sample. Taking this into account, it is considered that the limited surrogate recoveries outside the preferred range does not affect the reliability of the data for this investigation.

Matrix Spikes

A sufficient number of matrix spikes were analysed within the soil samples, in which all recoveries were within the preferred range (70-130%) thus indicating matrix interference is not significant with respect to the accuracy of the dataset.

Laboratory Control Samples

A sufficient number of laboratory control samples (LCS) were analysed in which all recoveries were within the preferred range (70-130%) with the single exception of endosulfan sulphate (133% recovery) within the split duplicate sample. Given that most LCS recoveries were within the preferred range and that no OCPs were detected above the laboratory limit of reporting (LOR), the single exceedance is not considered to affect the accuracy of the dataset.

Laboratory Duplicates

Laboratory duplicates were conducted at a rate of greater than 1 per 20 primary samples analysed and all resultant RPDs were reported to be within the JBS&G acceptable limit (0-50 %)

7.1.3 Representativeness

Sampling appropriate for media and analytes

All soil sampling works completed during the investigation were conducted in accordance with JBS&G standard operating procedures. Soil sampling was conducted with the advancement of boreholes, considered appropriate for the potential site chemical contaminants. It is noted that boreholes are not the preferred method of investigation for asbestos, but, given that the site is proposed to be developed for commercial / industrial purposes in which hardstand will cover the majority of the site surface, the method is considered acceptable to meet the objectives of the assessment.

Laboratory Blanks

There were no reported concentrations of contaminant compounds above the laboratory LOR in the laboratory method blanks for soil analysis.

Holding Times

All samples were extracted and analysed within the recommended holding times with the exception of a limited number of semi-volatile organic compounds (sVOCs). Given that the samples were appropriately stored at the laboratory and analysed within holding time, the slight exceedance of extraction time is not considered significant with respect to the outcomes of the assessment.

Trip Spike

A trip spike was submitted with each batch of soil samples. All trip spike recoveries were within the acceptable limit of 70-130 %, indicating that the adopted assessment sample preservation methods were appropriate to result in a low risk of contaminant concentration loss during transport of the samples.

Trip Blank

A trip blank was submitted with the soil samples submitted to the laboratory. There were no reported concentrations of BTEX compounds above the laboratory LOR thus demonstrating the absence of significant contaminant cross contamination issues during the temporary storage and transportation of samples analysed during this investigation.

Rinsate

A rinsate sample was collected during soil sampling activities in which the reported concentration of all analytes was below detection limits, indicating that overall, the adopted decontamination procedures were adequate.

7.1.4 Comparability

Eurofins (primary laboratory) and Envirolab (secondary laboratory) were NATA accredited for comparable methods of analysis. Field works have been undertaken by a team of experienced samplers in accordance with the same standard operating procedure. All field documentation was appropriately completed.

7.1.5 Completeness

Documentation

All documentation is complete and correct.

Frequency for QC Samples

Frequency of analysis for the QC samples collected has met or exceeded the required minimum frequency for each analyte analysed.

7.1.6 Sensitivity

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

7.2 QA/QC Assessment

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

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

On the basis of the results of the field and laboratory QA/QC program, the soil data is of an acceptable quality in order to achieve the objectives of the assessment.

8. Soil Assessment

8.1 Field Observations

Fill material was encountered at all sampling locations ranging in depth from 1.3-2.9 m bgs. The fill generally comprised gravelly silty clay of low plasticity with minimal anthropogenic inclusions. The fill material was underlain by natural brown and red silty clay of high plasticity to the maximum depth (11.5 m bgs) of the investigation.

Groundwater seepage was identified at all borehole locations at depths ranging from 3.3 to 6.9 m bgs.

8.2 Analytical Results

Laboratory analysis results for soil samples completed for the investigation have been summarised in tables presented in **Appendix A**, with comments discussed below for the various analyte groups.

8.2.1 Heavy Metals

Heavy metal concentrations were reported to be below the adopted site assessment criteria protective of human health in all samples selected for analysis.

Zinc was reported at BH05 0.9-1.0 at a concentration of 120 mg/kg which slightly exceeds the generic criteria protective of ecological receptors. Statistical analysis of the zinc dataset identified that the standard deviation (30 mg/kg) was less than 50% of the adopted criterion, the maximum concentration was less than the 250% of the adopted criterion and the 95% upper confidence (UCL) of the mean concentration (78 mg/kg) was less than the adopted criterion. As such, the reported zinc concentrations are not considered to pose an unacceptable risk to potential future on-site ecological receptors.

8.2.2 TRH and BTEX

TRH and BTEX concentrations were reported to be below the laboratory limit of reporting (LOR) or less than the adopted assessment criteria in all samples selected for analysis.

8.2.3 PAHs

Total PAH and carcinogenic PAHs as B(a)P TEQ concentrations were below the adopted site assessment criteria in all samples selected for analysis.

8.2.4 OCP and PCBs

The reported concentrations of OCPs and PCBs were below the laboratory LOR or less than the adopted assessment criteria in all samples selected for analysis and below the adopted site assessment criteria.

8.2.5 Asbestos

Asbestos in the form of fragments of ACM was not observed on the ground surface of the site or within boreholes advanced as part of the intrusive investigation. In addition, the laboratory did not report the presence of asbestos above the laboratory LOR and adopted criterion (0.001 % w/w) in all samples selected for analysis.

9. Site Characterisation

Based on the decision making process for evaluating land-use suitability detailed in EPA (2017) and outlined in **Section 5.2.1**, the decisions required to be made in order to satisfy the objectives of the assessment are discussed below.

9.1 Are there any unacceptable risks to likely future onsite receptors from soils?

Representative samples of fill and natural soil were selected and analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, OCPs, PCBs, and asbestos.

The reported concentrations of all contaminants of concern were below the adopted criteria applicable to commercial / industrial land-use. On this basis, there were no unacceptable risks to future on-site receptors identified as part of the investigation.

9.2 Are there any issues relating to local area background soil concentrations that exceed the appropriate soil criteria?

Soil contaminant results in natural soil indicate there are likely no issues relating to local area background conditions that require consideration with respect to the suitability of the site.

9.3 Are there any impacts of chemical mixtures?

There were no potential chemical mixtures identified during the investigation that may pose a management issue at the site.

9.4 Are there any aesthetic issues at the site?

There were no unacceptable odours or staining associated with contamination observed within site soil during the current investigation that may pose an aesthetic issue at the site. In addition, no ACM fragments or other anthropogenic materials were observed on the ground surface that may present an aesthetic issue at the site.

9.5 Is there any evidence of, or potential for, migration of contaminants from the site?

Based on the completed scope of works, the risk of migration of contaminants from the site is considered to be low given the absence of any significant contamination being identified in site soils.

The site is predominantly covered in hardstand and concentrations of contaminants in shallow fill/soil are low, therefore, there is low risk that contaminants can migrate from the site through the generation of windblown dusts or surface water erosion.

The potential for migration of site related contaminants to groundwater is dependent upon the mobility of those contaminants within soil. The concentration of contaminants in soil is low and the site geology (clay) and depth of groundwater (approximately 5 m bgs) will retard migration of soil contaminants. Therefore, the potential presence of site derived contamination within soil to groundwater is considered to be low.

9.6 Is a site management strategy required?

Based on the findings of this investigation and subject to the limitations presented in **Section 10**, it is considered that the site is suitable for the proposed commercial land-use (HIL-D).

It is recommended during site redevelopment works a Construction Environmental Management Plan (CEMP) should be implemented which identifies typical site management controls and makes provisions for unexpected finds.

10. Conclusion and Recommendations

Based on the findings of this investigation and subject to the limitations presented in **Section 11**, JBS&G concludes the following:

- The site has historically been used for agricultural and rural residential purposes.
- The potential sources of contamination at the site included historic filling for site levelling purposes, use of the site for agricultural purposes and former structures potentially containing hazardous materials.
- Fill material was encountered at all sampling locations ranging in depth from 1.3-2.9 m bgs. The fill generally comprised gravelly silty clay of low plasticity with minimal anthropogenic inclusions. The fill material was underlain by natural brown and red silty clay of high plasticity to the maximum depth (11.5 m bgs) of the investigation.
- Representative samples of fill material and natural soils from the site were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, OCP/PCBs and asbestos. The reported concentrations of all contaminants were below the adopted criteria applicable to commercial / industrial land-use.
- Based on the findings of this investigation and subject to the limitations presented in **Section 10**, it is considered that the site is suitable for the proposed commercial land-use (HIL-D).

It is recommended during site redevelopment works a Construction Environmental Management Plan (CEMP) should be implemented which identifies typical site management controls and makes provisions for unexpected finds.

11. Limitations

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

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

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

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

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

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

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

Figures

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:8,000	

0 100 200
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road, Orchard Hills NSW

SITE LOCATION

FIGURE 1

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\R01 Rev A\60586_01_SiteLocation.mxd
Reference: NSW DFSI, 2019

Legend:

- Approximate Site Boundary
- Creek/ Stream

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 20/04/2021
Drawn By: RH	Checked By: CB

Scale 1:6,000

0 80 160

metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road, Orchard Hills NSW

SITE LAYOUT

FIGURE 2

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\R01 Rev A\60586_02_SiteLayout.mxd
Reference: NSW DFSI, 2019

Legend:
- Approximate Site Boundary
- Sample Locations

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 20/04/2021
Drawn By: RH	Checked By: CB
Scale 1:2,200	

0 30 60
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road, Orchard Hills NSW

SAMPLE LOCATIONS

FIGURE 3

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\R01 Rev A\60586_03_SampleLocations.mxd
Reference: NSW DFSI, 2019

Appendix A Summary Analytical Tables

Table A: Soil Analytical Results
Project Number: 60586
Project Name: Mamre Road ESA

	Metals & Metalloids								TRHs (NEPC 2013)							BTEXN							
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene	Naphthalene - MAH
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	50	100	100	100	20	50	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	3000	900	3600	240000	1500	730	6000	400000															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay 0-1m														310	NL	4	NL	NL			NL	NL	NL
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind	160		310	85	1800		55	110														370	370
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil											2500	6600		215	170	95	135	185			95		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil									800	1000	5000	10000											
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil																							

Field_ID	Location_Code	Sample_Depth_Range	Sampled_Date_Time																					
BH01-0.1-0.2	BH01	0.1-0.2	25/03/2021	7.6	<0.4	26	32	24	<0.1	17	77	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH01-2-2.1	BH01	2-2.1	25/03/2021	8.3	<0.4	11	36	18	<0.1	18	83	<20	73	180	<100	269	<20	79	<0.1	<0.1	<0.1	<0.1	0.3	0.4	-	<0.5
BH01-2-2.2	BH01	2-2.2	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2 0.0-0.1	BH2	0.0-0.1	6/04/2021	3.9	<0.4	18	15	18	<0.1	8.6	38	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH2-0-1.0	BH2	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-0-1	BH3	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-1-1.1	BH3	1-1.1	6/04/2021	6.6	<0.4	14	22	21	<0.1	10	40	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH4-0-1	BH4	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4-1-1.1	BH4	1-1.1	6/04/2021	6	<0.4	15	26	20	<0.1	15	73	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH05-0.8-1	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20210325-02	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0.9-1	BH05	0.9-1	25/03/2021	7.3	<0.4	14	49	23	<0.1	27	110	<20	<50	130	<100	130	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
QA20210325-01	BH05	0.9-1	25/03/2021	7	<0.4	14	36	22	<0.1	23	120	<20	<50	100	<100	100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
QC20210325-01	BH05	0.9-1	25/03/2021	<4	<0.4	5	34	15	<0.1	19	96	<25	99	200	<100	300	<25	99	<0.2	<0.5	<1	<1	<2	<3	<0.1	-
BH05-2.9-3	BH05	2.9-3	25/03/2021	6.8	<0.4	27	13	13	<0.1	7.8	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7-0.5-0.6	BH7	0.5-0.6	6/04/2021	10	<0.4	18	31	21	<0.1	20	78	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH7-0-1.0	BH7	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-0-1.0	BH8	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-1.5-1.6	BH8	1.5-1.6	6/04/2021	12	<0.4	16	33	25	<0.1	21	84	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH8-1-2.0	BH8	1-2	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9-0.5-0.6	BH9	0.5-0.6	1/04/2021	11	<0.4	10	30	24	<0.1	6.3	35	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH9-0-1.0	BH9	0.9-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-0-1.0	BH10	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-1-1.0	BH10	1-1.1	1/04/2021	8.6	<0.4	12	37	26	<0.1	27	85	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH11-0-1.0	BH11	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-1.5-1.6	BH11	1.5-1.6	1/04/2021	11	<0.4	44	11	29	<0.1	8.1	19	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH12-0.6-0.7	BH12	0.6-0.7	1/04/2021	7.3	<0.4	9.3	34	33	<0.1	14	70	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5
BH12-0-1.0	BH12	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Results
Project Number: 60586
Project Name: Mamre Road ESA

	PAH																		
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Half)	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 - PAH	Phenanthrene	Pyrene	PAHs (Sum of 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	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						40												4000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay 0-1m															NL			
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind															370			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil					1.4													
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																		
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil																		
Field_ID	**Location_Code**	**Sample_Depth_Range**	**Sampled_Date_Time**																
BH01-0.1-0.2	BH01	0.1-0.2	25/03/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH01-2-2.1	BH01	2-2.1	25/03/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH01-2-2.2	BH01	2-2.2	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2 0.0-0.1	BH2	0.0-0.1	6/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH2-0-1.0	BH2	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-0-1	BH3	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-1-1.1	BH3	1-1.1	6/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH4-0-1	BH4	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4-1-1.1	BH4	1-1.1	6/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05-0.8-1	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20210325-02	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0.9-1	BH05	0.9-1	25/03/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20210325-01	BH05	0.9-1	25/03/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC20210325-01	BH05	0.9-1	25/03/2021	<0.1	<0.1	<0.1	<0.1	0.1	<0.5	-	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.1
BH05-2.9-3	BH05	2.9-3	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7-0.5-0.6	BH7	0.5-0.6	6/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH7-0-1.0	BH7	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-0-1.0	BH8	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-1.5-1.6	BH8	1.5-1.6	6/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH8-1-2.0	BH8	1-2	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9-0.5-0.6	BH9	0.5-0.6	1/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH9-0-1.0	BH9	0.9-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-0-1.0	BH10	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-1-1.0	BH10	1-1.1	1/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH11-0-1.0	BH11	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-1.5-1.6	BH11	1.5-1.6	1/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12-0.6-0.7	BH12	0.6-0.7	1/04/2021	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH12-0-1.0	BH12	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Results
Project Number: 60586
Project Name: Mamre Road ESA

	Organochlorine Pesticides																								
	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								45	530					3600				100			50		2500	160
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay 0-1m																								
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind												640												
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																								
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil																								

Field_ID	Location_Code	Sample_Depth_Range	Sampled_Date_Time																							
BH01-0.1-0.2	BH01	0.1-0.2	25/03/2021	<0.05	<0.05	<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	<0.2	<0.1
BH01-2-2.1	BH01	2-2.1	25/03/2021	<0.05	<0.05	<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	<0.2	<0.1
BH01-2-2.2	BH01	2-2.2	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2 0.0-0.1	BH2	0.0-0.1	6/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH2-0-1.0	BH2	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-0-1	BH3	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3-1-1.1	BH3	1-1.1	6/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH4-0-1	BH4	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4-1-1.1	BH4	1-1.1	6/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH05-0.8-1	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA20210325-02	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05-0.9-1	BH05	0.9-1	25/03/2021	<0.05	<0.05	<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	<0.2	<0.1
QA20210325-01	BH05	0.9-1	25/03/2021	<0.05	<0.05	<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	<0.2	<0.1
QC20210325-01	BH05	0.9-1	25/03/2021	<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	-
BH05-2.9-3	BH05	2.9-3	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7-0.5-0.6	BH7	0.5-0.6	6/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH7-0-1.0	BH7	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-0-1.0	BH8	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8-1.5-1.6	BH8	1.5-1.6	6/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	0.14	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
BH8-1-2.0	BH8	1-2	6/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9-0.5-0.6	BH9	0.5-0.6	1/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH9-0-1.0	BH9	0.9-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-0-1.0	BH10	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10-1-1.0	BH10	1-1.1	1/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH11-0-1.0	BH11	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11-1.5-1.6	BH11	1.5-1.6	1/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH12-0.6-0.7	BH12	0.6-0.7	1/04/2021	<0.05	<0.05	<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	<0.2	<0.1
BH12-0-1.0	BH12	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Results
Project Number: 60586
Project Name: Mamre Road ESA

	Polychlorinated Biphenyls								Chlorinated Benzenes	Asbestos - Eurofins										Asbestos - Envirolab	Other
	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene	Approximate Sample Mass	Mass ACM	Mass Asbestos in ACM	Asbestos from ACM in Soil	Mass FA	Mass Asbestos in FA	Mass AF	Mass asbestos in AF	Asbestos from FA & AF in Soil	Mass Asbestos in FA & AF	Asbestos ID in Soil	Moisture Content (dried @ 103°C)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	g	g	% (w/w)	g	g	g	g	% (w/w)	g	g/kg	%
EQL	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.05												1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								7	80												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay 0-1m																					
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind																					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																					
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																					
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil													0.05					0.001			

Field_ID	Location_Code	Sample_Depth_Range	Sampled_Date_Time																			
BH01-0.1-0.2	BH01	0.1-0.2	25/03/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	736	0	0	0	0	0	0	0	0	-	10
BH01-2-2.1	BH01	2-2.1	25/03/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	6.9
BH01-2-2.2	BH01	2-2.2	25/03/2021	-	-	-	-	-	-	-	-	-	464	0	0	0	0	0	0	0	0	-	-
BH2 0.0-0.1	BH2	0.0-0.1	6/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	5.3
BH2-0-1.0	BH2	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	426	0	0	0	0	0	0	0	0	-	-
BH3-0-1	BH3	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	698	0	0	0	0	0	0	0	0	-	-
BH3-1-1.1	BH3	1-1.1	6/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	11
BH4-0-1	BH4	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	812	0	0	0	0	0	0	0	0	-	-
BH4-1-1.1	BH4	1-1.1	6/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	11
BH05-0.8-1	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	547	0	0	0	0	0	0	0	0	-	-
QA20210325-02	BH05	0.8-1	25/03/2021	-	-	-	-	-	-	-	-	-	351	0	0	0	0	0	0	0	0	-	-
BH05-0.9-1	BH05	0.9-1	25/03/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	11
QA20210325-01	BH05	0.9-1	25/03/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	9.1
QC20210325-01	BH05	0.9-1	25/03/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	0	-
BH05-2.9-3	BH05	2.9-3	25/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
BH7-0.5-0.6	BH7	0.5-0.6	6/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	8.4
BH7-0-1.0	BH7	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	854	0	0	0	0	0	0	0	0	-	-
BH8-0-1.0	BH8	0-1	6/04/2021	-	-	-	-	-	-	-	-	-	421	0	0	0	0	0	0	0	0	-	-
BH8-1.5-1.6	BH8	1.5-1.6	6/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	6.9
BH8-1-2.0	BH8	1-2	6/04/2021	-	-	-	-	-	-	-	-	-	889	0	0	0	0	0	0	0	0	-	-
BH9-0.5-0.6	BH9	0.5-0.6	1/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	14
BH9-0-1.0	BH9	0.9-1	1/04/2021	-	-	-	-	-	-	-	-	-	595	0	0	0	0	0	0	0	0	-	-
BH10-0-1.0	BH10	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	723	0	0	0	0	0	0	0	0	-	-
BH10-1-1.0	BH10	1-1.1	1/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	4.9
BH11-0-1.0	BH11	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	493	0	0	0	0	0	0	0	0	-	-
BH11-1.5-1.6	BH11	1.5-1.6	1/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	14
BH12-0.6-0.7	BH12	0.6-0.7	1/04/2021	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	-	-	-	-	-	-	-	-	-	-	6.5
BH12-0-1.0	BH12	0-1	1/04/2021	-	-	-	-	-	-	-	-	-	414	0	0	0	0	0	0	0	0	-	-

Appendix B Borelogs

SOIL BOREHOLE BH01

PROJECT NUMBER 60586	**DRILLING COMPANY** Rockwell	**EASTING** N/A
PROJECT NAME Mamre Road ESA	**DRILLING DATE** 25-Mar-21	**NORTHING** N/A
CLIENT Pells Sullivan Meynink	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW	**DRILLING METHOD** Solid Flight Auger	**COORD SOURCE** Map Approximation
	DIAMETER 150 mm	**LOGGED BY** ML

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0		Asphalt	Asphalt	D	BH01-0.1-0.2	0.1	No odour, staining or asbestos
				CL-GS	Fill: Gravelly sandy CLAY, brown, heterogeneous (reworked), dry	D			
		0.5		CL-ML		D	BH01-0.5-0.6	0.4	No odour, staining or asbestos
		1			Fill: Silty CLAY, multi-coloured, homogeneous (reworked), dry, medium plasticity, nclusions of angular gravels (@1.5 m)		BH01-0.9-1.0	0.3	No odour, staining or asbestos
		1.5			Fil: Silty gravelly CLAY, grey, heterogeneous, dry, well-graded, coarse gravels, angular,				
		2		CL-ML-GM	dense	D	BH01-2.0-2.1	0	No odour, staining or asbestos
		2.5		CL-ML	Silty CLAY, dark brown, heterogeneous, damp, medium plasticity, inclusions of rootlets	SM	BH01-2.4-2.5	0	No odour, staining or asbestos
	▽	3		CL-ML	Silty CLAY, red/grey, homogeneous, damp, high plasticity, firm	SM	BH01-2.9-3.0	0	
		3.5					BH01-3.5-3.6	0	
		4							
		4.5							
		5							
		5.5					BH01-5.4-5.5	0	
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							
		9					BH01-8.9-9.0	0	
		9.5							
		10							
		10.5							
		11							End of hole @11.5 m, ran out of auger attachments. Hit GW @ 3.3 m.
		11.5							

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SOIL BOREHOLE BH02

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 06-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0		ML-GM	Fill: Gravelly SILT (road base), light brown, heterogeneous, dry, medium/fine gravels, angular, dense	D	BH02-0-0.1	0	No odour, staining or asbestos
		0.5		CL-GC	Fill: Gravelly CLAY, dark brown, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of clay mottles	D	BH02-0.5-0.6	0	No odour, staining or asbestos
		1					BH02-1.0-1.1	4.8	
		1.5					BH02-1.5-1.6	5.3	
		2		CL-GC	Fill: Gravelly CLAY, dark grey/brown, heterogeneous, dry, medium/fine gravels, angular, dense	D	BH02-2.0-2.1	3.5	No odour, staining or asbestos
		2.5					BH02-2.5-2.6	3.5	
		3		CL-ML	Silty CLAY, dark brown/grey, homogeneous, damp, high plasticity, soft	SM			No odour, staining or asbestos
		3.5					BH02-3.5-3.6	0	
		4		CL-ML	Silty CLAY, brown/dark orange, homogeneous, damp, high plasticity, soft	SM			No odour, staining or asbestos
		4.5					BH02-4.5-4.6	0	
		5		CL-ML	Silty CLAY, brown/dark orange, homogeneous, dry, high plasticity, soft	D			
		5.5					BH02-5.5-5.6	0	
	▽	6							
		6.5							
		7							
		7.5							
		8							
		8.5							
		9							End of hole @9.6 m refusal on bedrock. Hit GW @ 6.1 m.
		9.5							
		10							
		10.5							

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SOIL BOREHOLE BH03

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 06-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0		ML-GM	Fill: Gravelly SILT, light brown, heterogeneous, dry, medium/fine gravels, angular, dense	D	BH03-0-0.1	3.8	No odour, staining or asbestos
		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, light brown, heterogeneous, dry, medium gravels, angular, dense, inclusions of ash and shale rocks	D	BH03-0.5-0.6	0	No odour, staining or asbestos
		1					BH03-1.0-1.1	5.5	
		1.5					BH03-1.5-1.6	1.8	
		2		CL-GM-ML	Fill: Gravelly silty CLAY, dark brown, heterogeneous, dry, high plasticity, inclusions of coarse gravels and shale	D	BH03-2.0-2.1	2.4	No odour, staining or asbestos
		2.5					BH03-2.5-2.6	10	
		3		CL-ML	Silty CLAY, dark red/brown, homogeneous, dry, low plasticity, stiff	D	BH03-3.0-3.1	0	No odour, staining or asbestos
		3.5							
		4					BH03-4.0-4.1	0	
		4.5		CL-ML	Silty CLAY, dark orange, homogeneous, damp, high plasticity, soft	SM			
		5							
		5.5					BH03-5.5-5.6	0	
	▽	6							
		6.5							
		7							
		7.5							
		8							
		8.5							End of hole @9.1 m, refusal on bedrock. Hit GW @ 6.0 m.
		9							
		9.5							

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SOIL BOREHOLE BH04

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 06-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, light brown/orange, heterogeneous, medium/fine gravels, angular, dense, inclusions of clay mottles and rootlets	D	BH04-0-0.1	2.3	No odour, staining or asbestos
		1					BH04-0.5-0.6	4.2	
		1.5					BH04-1.0-1.1	3.5	
				CL-GM-ML	Fill: Gravelly silty CLAY, dark brown/grey, heterogeneous, fine gravels, angular, dense, inclusions of ash and clay mottles	D	BH04-1.5-1.6	4.2	No odour, staining or asbestos
		2					BH04-2.0-2.1	7.6	
		2.5		CL-ML	Silty CLAY, light brown/dark orange, homogeneous, damp, high plasticity, soft	SM	BH04-2.5-2.6	2.9	
		3					BH04-3.0-3.1	0	
		3.5							
		4					BH04-4.0-4.1	0	
		4.5							
	▽	5					BH04-5.0-5.1	0	
		5.5							
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							
		9							End of hole @9.6 m, refusal on bedrock. Hit GW @ 5.3 m.
		9.5							
		10							
		10.5							

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SOIL BOREHOLE BH05

PROJECT NUMBER 60586	**DRILLING COMPANY** Rockwell	**EASTING** N/A
PROJECT NAME Mamre Road ESA	**DRILLING DATE** 25-Mar-21	**NORTHING** N/A
CLIENT Pells Sullivan Meynink	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW	**DRILLING METHOD** Solid Flight Auger	**COORD SOURCE** Map Approximation
	DIAMETER 150 mm	**LOGGED BY** ML

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, red/brown/grey, heterogeneous, damp, medium plasticity, soft	SM	BH05-0-0.1	0.2	No odour, staining or asbestos
							BH05-0.3-0.4	0.7	
		1		CL-GM-ML	Fill: Gravelly silty CLAY, red/brown/grey, heterogeneous, dry, well-graded, poorly sorted, coarse gravels, angular, inclusions of crushed shale	D	BH05-0.9-1.0	0.1	No odour, staining or asbestos
		1.5							
				CL-GM-ML	Fill: Gravelly silty CLAY, red/brown/grey, heterogeneous, dry, medium plasticity, firm	D	BH05-1.9-2.0	0	No odour, staining or asbestos.
		2.5							
		3		CL-ML	Silty CLAY, grey/dark orange, homogeneous, dry, high plasticity, firm	D	BH05-2.9-3.0	0	No odour, staining or asbestos
		3.5							
		4							
		4.5							
		5					BH05-4.9-5.0	0	
		5.5							
		6							
	▽	6.5							
		7					BH05-6.9-7.0	0	
		7.5							
		8							
		8.5		CL-ML	Silty CLAY, dark grey/dark orange, homogeneous, dry, high plasticity, firm, inclusions of ironstones	D			End of hole @10.5 m, refusal on bedrock. Hit GW @ 6.5 m.
		9							
		9.5							
		10							
		10.5							

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SOIL BOREHOLE BH07

PROJECT NUMBER 60586	**DRILLING COMPANY** Rockwell	**EASTING** N/A
PROJECT NAME Mamre Road ESA	**DRILLING DATE** 06-Apr-21	**NORTHING** N/A
CLIENT Pells Sullivan Meynink	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW	**DRILLING METHOD** Solid Flight Auger	**COORD SOURCE** Map Approximation
	DIAMETER 150 mm	**LOGGED BY** MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, light brown, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of shale rocks	D	BH07-0-0.1	2.8	No odour, staining or asbestos.
		1					BH07-0.5-0.6	8.6	
		1.5					BH07-1.0-1.1	8.1	
		2		CL-ML	Silty CLAY, light brown/orange, homogeneous, dry, low plasticity, stiff	D	BH07-1.5-1.6	10.8	No odour, staining or asbestos
		2.5					BH07-2.0-2.1	0	
		3					BH07-3.0-3.1	0	
		3.5							
		4		CL-ML	Silty CLAY, dark orange/brown, homogeneous, dry, low plasticity, very stiff	D	BH07-4.0-4.1	0	No odour, staining or asbestos
		4.5							
	▽	5		CL-ML	Silty CLAY, dark orange/brown, homogeneous, damp, medium plasticity, soft	D	BH07-5.0-5.1	0	
		5.5							
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							End of hole @8.8 m, refusal on bedrock. Hit GW @ 5.2 m.
		9							
		9.5							

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SOIL BOREHOLE BH08

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 06-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, brown/grey, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of shale and rootlets	D	BH08-0-0.1	9.7	No odour, staining or asbestos
							BH08-0.5-0.6	4.5	
		1			Fill: Gravelly silty CLAY, brown/grey,				
				CL-GM-ML	heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of crushed shale, ash and clay mottles	D	BH08-1.0-1.1	10.2	No odour, staining or asbestos
		1.5					BH08-1.5-1.6	5.9	
				CL-ML	Silty CLAY, dark grey/red/orange, homogeneous, dry, high plasticity, very stiff	D			No odour, staining or asbestos
		2					BH08-2.0-2.1	0	
		2.5							
		3		CL-ML	Silty CLAY, red/orange, homogeneous, wet, high plasticity, soft	W	BH08-3.0-3.1	0	
		3.5							
		4					BH08-4.0-4.1	0	
	▽	4.5							
		5							
		5.5							
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							
		9							
		9.5							End of hole @10 m, refusal on bedrock. Hit GW @ 4.5 m.
		10							
		10.5							
		11							
		11.5							

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 07 Apr 2021

SOIL BOREHOLE BH09

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 01-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, light grey/red, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of clay mottles	D	BH09-0.5-0.6	7.3	No odour, staining or asbestos
		1					BH09-1.0-1.1	10.3	
		1.5					BH09-1.5-1.6	10.4	
		2		CL-ML	Silty CLAY, dark brown/red, heterogeneous, dry, high/medium plasticity, firm	D			No odour, staining or asbestos
		2.5					BH09-2.4-2.5	0	
		3							
		3.5		CL-ML	Silty CLAY, light brown/orange, homogeneous, wet, high plasticity, soft	W	BH09-3.4-3.5	0	
		4							
		4.5					BH09-4.5-4.6	0	
		5							
		5.5					BH09-5.5-5.6	0	
		6							
		6.5							
		7							
		7.5							End of hole @7.9 m, refusal on bedrock. Hit GW @7.9 m.
	▽	8							
		8.5							

Disclaimer This log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 07 Apr 2021

SOIL BOREHOLE BH10

PROJECT NUMBER 60586	**DRILLING COMPANY** Rockwell	**EASTING** N/A
PROJECT NAME Mamre Road ESA	**DRILLING DATE** 01-Apr-21	**NORTHING** N/A
CLIENT Pells Sullivan Meynink	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW	**DRILLING METHOD** Solid Flight Auger	**COORD SOURCE** Map Approximation
	DIAMETER 150 mm	**LOGGED BY** MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, dark grey/red, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of crushed shale	D	BH10-0-0.1	1.5	No odour, staining or asbestos
							BH10-0.5-0.6	5.8	
		1					BH10-1.0-1.1	3.1	
		1.5		CL-GM-ML	Fill: Gravelly silty CLAY, brown/red, heterogeneous, dry, fine gravels, inclusions of clay mottles	D	BH10-1.5-1.6	7.3	No odour, staining or asbestos
		2					BH10-1.9-2.0	7.3	
		2.5		CL-ML	Silty CLAY, dark brown/red/orange, heterogeneous, dry, high plasticity, stiff	D	BH10-2.5-2.6	0	No odour, staining or asbestos
		3							
		3.5					BH10-3.5-3.6	0	
		4							
		4.5							
		5		CL-ML	Silty CLAY, dark brown/red/orange, heterogeneous, damp, high plasticity, soft	SM			
	▽	5.5							
		6					BH10-5.9-6.0	0	
		6.5							
		7							End of hole @7.3 m, refusal on bedrock. Hit GW @5.5 m.
		7.5							

SOIL BOREHOLE BH11

PROJECT NUMBER 60586	**DRILLING COMPANY** Rockwell	**EASTING** N/A
PROJECT NAME Mamre Road ESA	**DRILLING DATE** 01-Apr-21	**NORTHING** N/A
CLIENT Pells Sullivan Meynink	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW	**DRILLING METHOD** Solid Flight Auger	**COORD SOURCE** Map Approximation
	DIAMETER 150 mm	**LOGGED BY** MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, brown/red, heterogeneous, dry, medium/fine gravels, angular, dense	D	BH11-0-0.1	19.2	No odour, staining or asbestos
							BH11-0.5-0.6	1.5	
		1		CL-GM-ML	Fill: Gravelly silty CLAY, brown/red, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of clay mottles		BH11-1.0-1.1	2.3	No odour, staining or asbestos
		1.5					BH11-1.5-1.6	9.9	
		2		CL-ML	Silty CLAY, red/grey, heterogeneous, dry, high plasticity, soft	D	BH11-2.0-2.1	0	No odour, staining or asbestos
		2.5		CL-ML	Silty CLAY, red/grey, heterogeneous, dry, low plasticity, firm	D			
		3					BH11-3.0-3.1	0	
		3.5							
		4					BH11-4.0-4.1	0	
		4.5							
		5							
	▽	5.5							
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							End of hole 8.5 m, refusal on bedrock. Hit GW @5.5 m.

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 07 Apr 2021

SOIL BOREHOLE BH12

PROJECT NUMBER 60586
PROJECT NAME Mamre Road ESA
CLIENT Pells Sullivan Meynink
ADDRESS 585-649 Mamre Road, Orchard Hill, NSW

DRILLING COMPANY Rockwell
DRILLING DATE 01-Apr-21
DRILL RIG
DRILLING METHOD Solid Flight Auger
DIAMETER 150 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY MS

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
SFA		0.5		CL-GM-ML	Fill: Gravelly silty CLAY, dark grey/red, heterogeneous, dry, medium/fine gravels, angular, dense, inclusions of clay mottles	D	BH12-0-0.1	5	No odour, staining or asbestos
		1					BH12-0.6-0.7	6.5	
							BH12-1.1-1.2		
		1.5		CL-ML	Silty CLAY, red/brown/orange, heterogeneous, dry, low plasticity, firm	D	BH12-1.7-1.8	9	No odour, staining or asbestos
		2							
		2.5					BH12-2.8-2.9	0	
		3		CL-ML	Silty CLAY, red/grey, heterogeneous, damp, medium plasticity, soft	SM			No odour, staining or asbestos
		3.5					BH12-3.8-3.9	0	
		4		CL-ML	Silty CLAY, red/grey, homogeneous, wet, medium plasticity, soft	W			
		4.5					BH12-4.8-4.9	0	
	▽	5							
		5.5					BH12-5.9-6.0	0	
		6							
		6.5							
		7							
		7.5							
		8							
		8.5							
		9							
		9.5							End of hole @9.9 m, refusal on bedrock. Hit GW @5.5 m.

Disclaimer This log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 07 Apr 2021

Appendix C Aerial Photographs

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 1956

FIGURE 1956

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_1956.mxd
Reference: DFSI, 2021

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586

Client: Pells Sullivan Meynink

Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB

Scale 1:4,000

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

**585-649 Mamre Road,
Orchard Hills NSW**

HISTORIC AERIALS 1965

FIGURE 1965

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_1965.mxd
Reference: DFSI, 2021

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 1978

FIGURE 1978

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_1978.mxd
Reference: DFSI, 2021

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

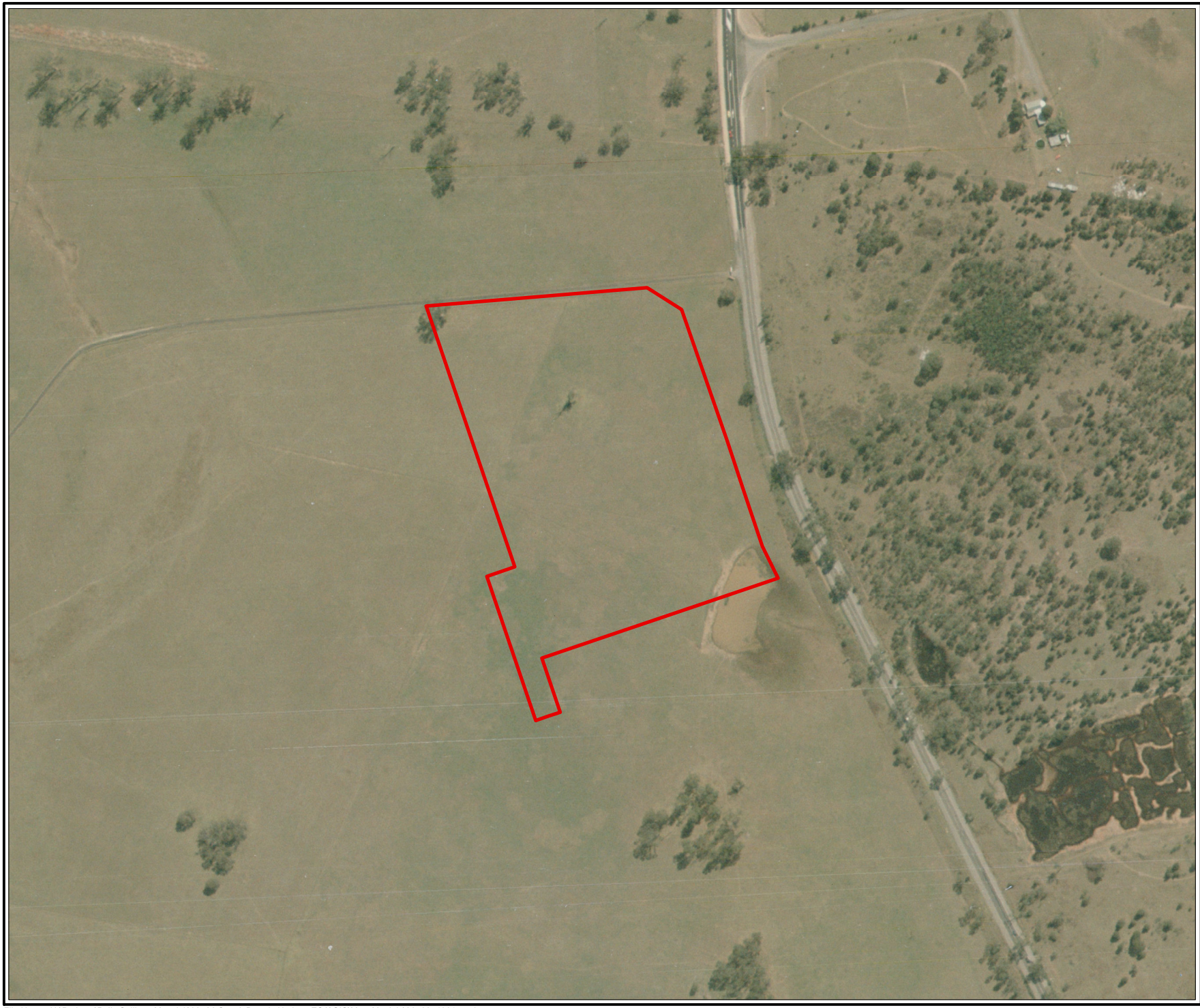
Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 1984

FIGURE 1984

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_1984.mxd
Reference: DFSI, 2021



Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 1991

FIGURE 1991

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_1991.mxd
Reference: DFSI, 2021

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 2005

FIGURE 2005

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_2005.mxd
Reference: Nearmap (2010-08-06)

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB

Scale 1:4,000

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road,
Orchard Hills NSW

HISTORIC AERIALS 2010

FIGURE 2010

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_2010.mxd
Reference: Nearmap (2010-08-06)

Legend:
Approximate Site Boundary

JBS&G

Job No: 60586	
Client: Pells Sullivan Meynink	
Version: R01 Rev A	Date 18/03/2021
Drawn By: RH	Checked By: CB
Scale 1:4,000	

0 50 100
metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road, Orchard Hills NSW

HISTORIC AERIALS 2021

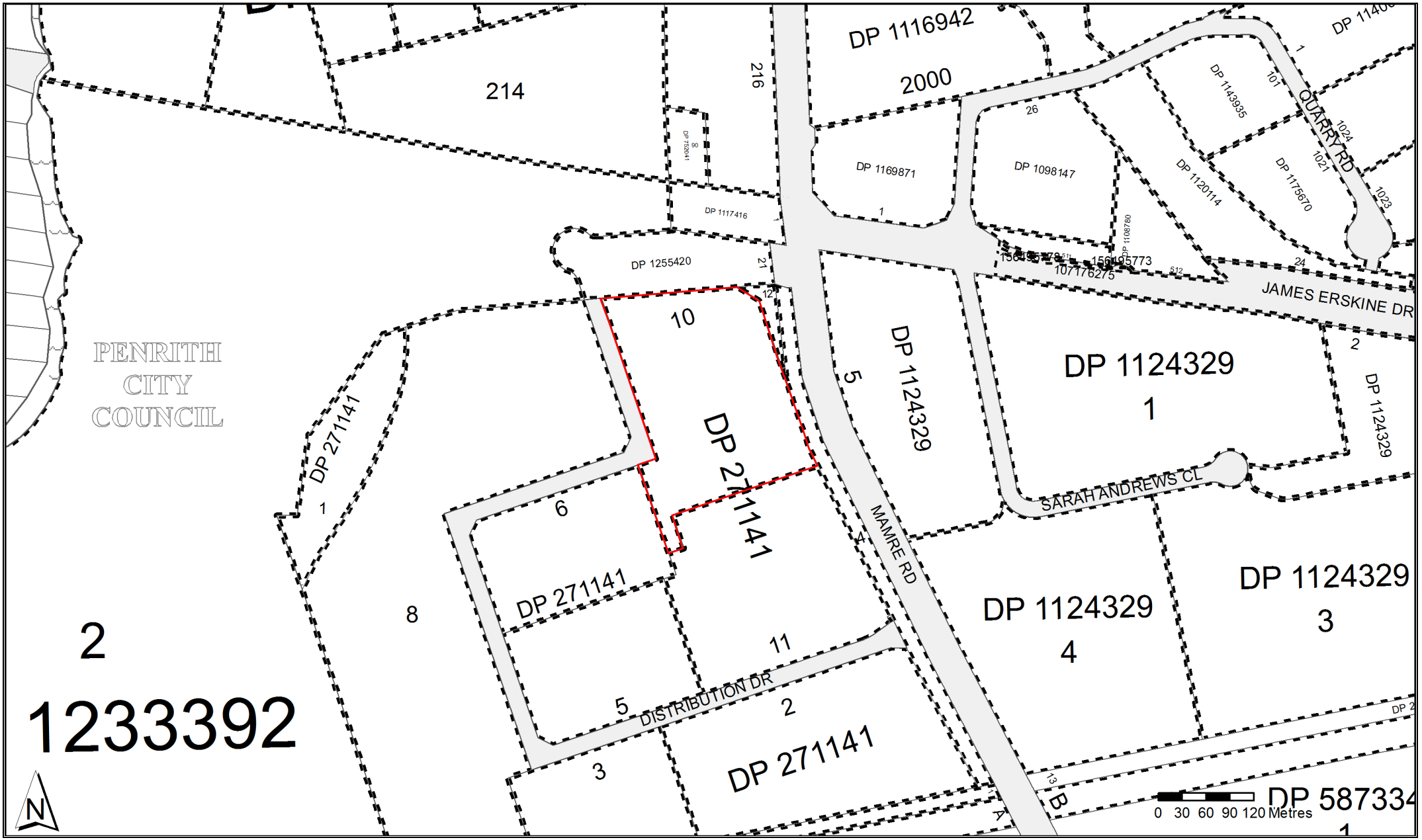
FIGURE 2021

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\Aerials\60586_2021.mxd
Reference: Nearmap (2021-01-26)

Appendix D Certificates of Title

Cadastral Records Enquiry Report : Lot 10 DP 271141

Locality : ORCHARD HILLS
Parish : MELVILLE
LGA : PENRITH
County : CUMBERLAND



Report Generated 7:52:19 AM, 31 March, 2021
Copyright © Crown in right of New South Wales, 2017

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

Req:R601339 /Doc:CT 13523-236 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:12 /Seq:1 of 5
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

NEW SOUTH WALES

[redacted]ICATE OF TITLE

[redacted]L PROPERTY ACT, 1900

IVA No.21794

Vol. 13523 Fol. 236

EDITION ISSUED

16 1 1978

(Page 1) Vol. 13523 Fol. 236

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

Registrar General.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 229770 in the City of Penrith Parish of Claremont and County of Cumberland being part of Portion 51 granted to James Scott on 9-1-1821 and part of Portion 50 granted to Henry Bayly on 9-7-1822. EXCEPTING THEREOUT the reserved road shown in the plan hereon.

FIRST SCHEDULE

THE COMMERCIAL BANKING COMPANY OF SYDNEY LIMITED. MORTGAGEE

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in section 28A Real Property Act, 1900).
3. Caveat No. Q160000 by the Registrar General pursuant to section 28F (2) of Real Property Act, 1900; Mortgagor Mandalong Investments Pty. Limited. Book 3249 No.450.

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

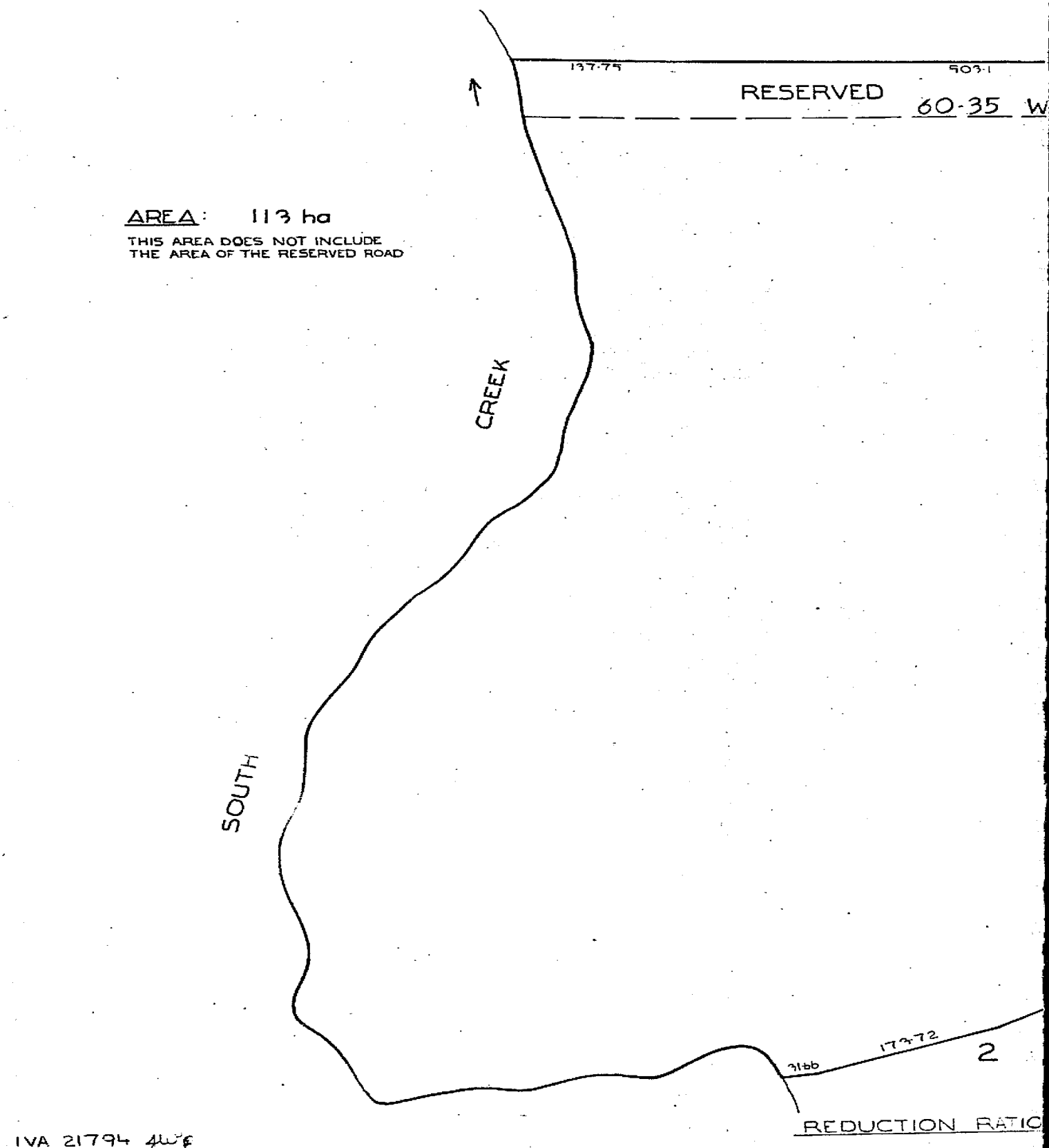
WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE REGISTRAR GENERAL'S OFFICE.

RG 2/66 NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

Vol. 13523 Fol. 236

PLAN SHOWING LO

LENGTHS ARE L



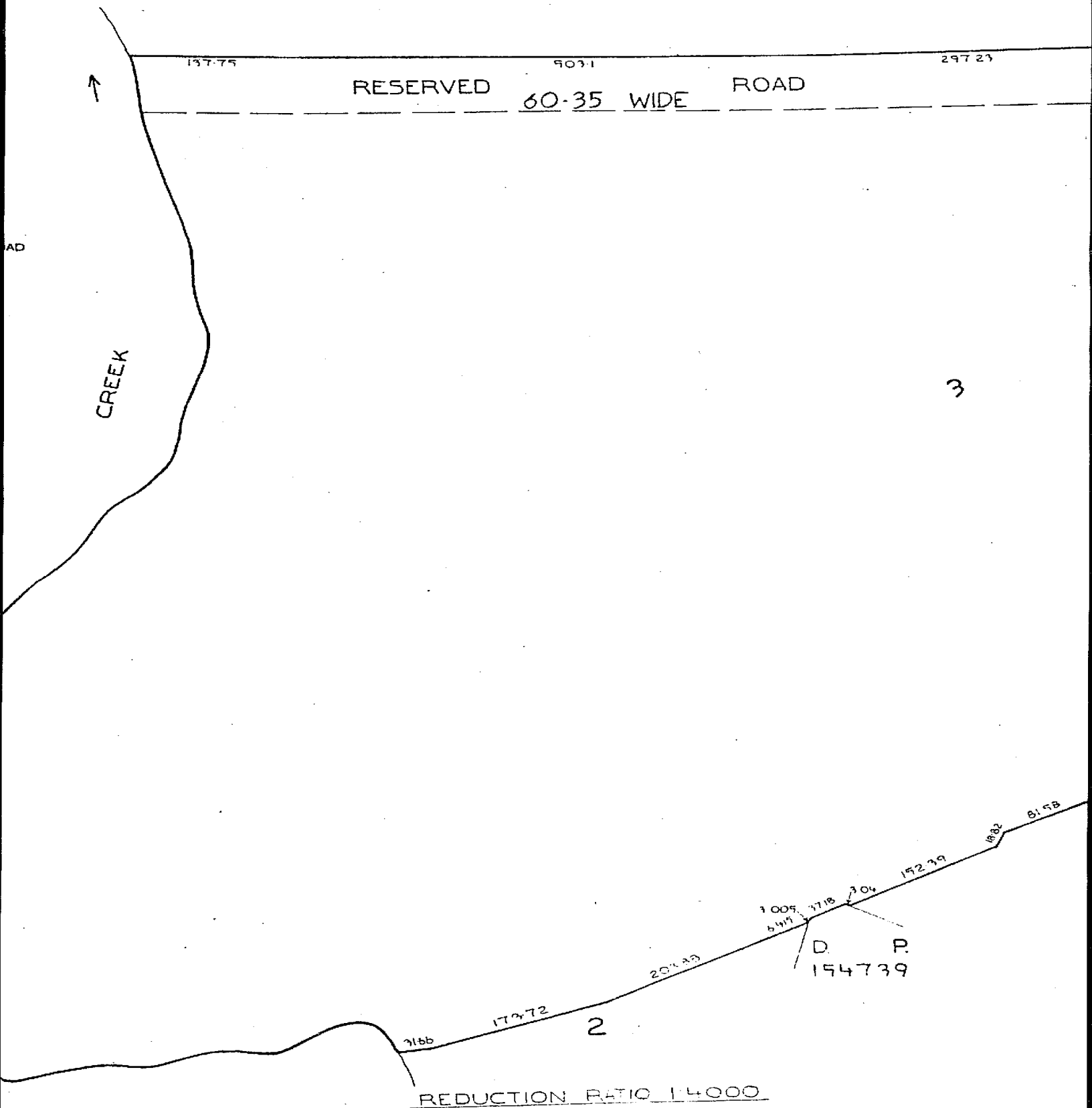
IVA 21794 4w E.

Req:R601339 /Doc:CT 13523-236 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:12 /Seq:2 of 5
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, orchard Hills

Req:R601339 /Doc:CT 13523-236 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:12 /Seq:3 of 5
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

PLAN SHOWING LOCATION OF LAND

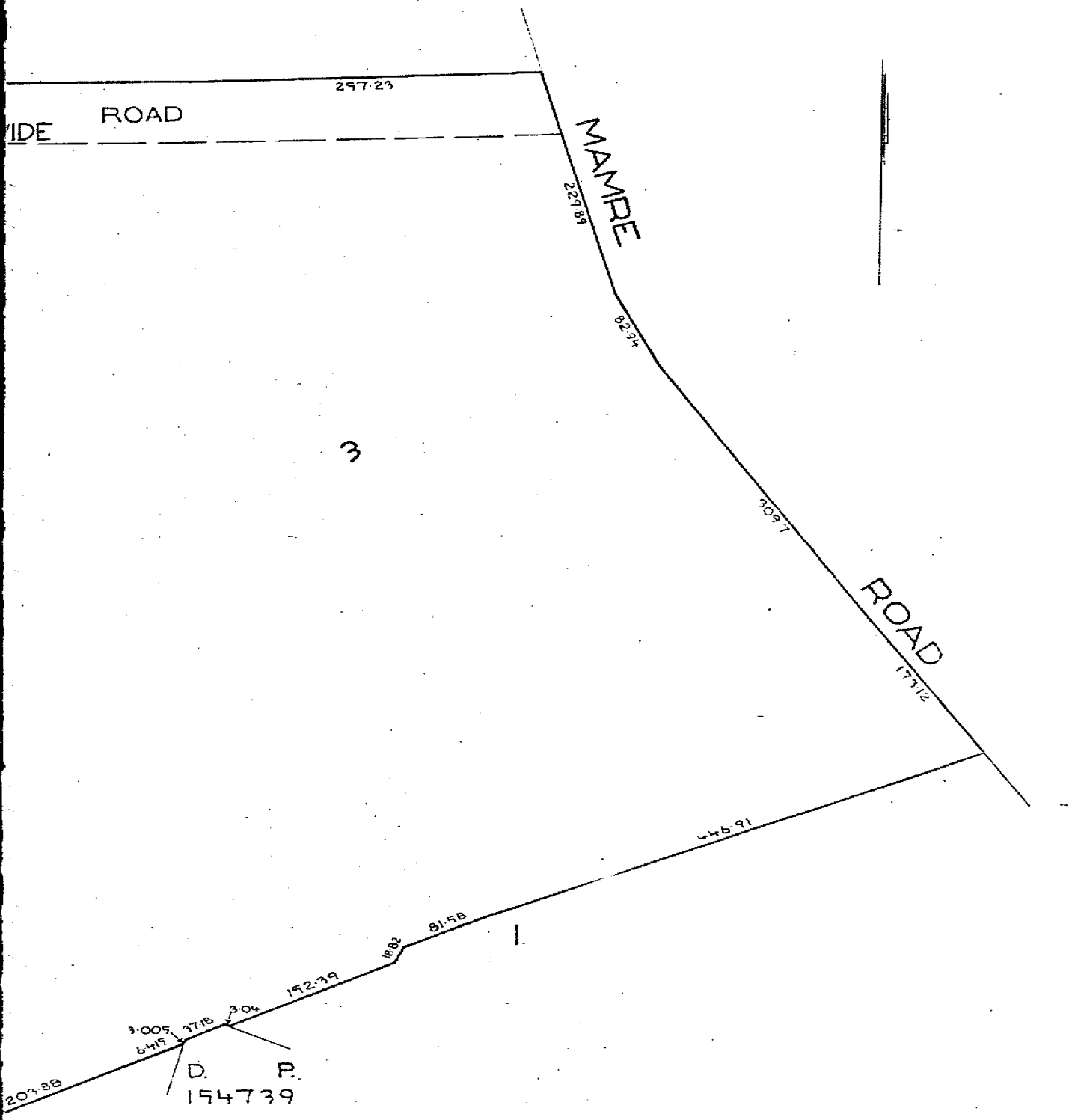
LENGTHS ARE IN METRES



Req:R601339 /Doc:CT 13523-236 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:12 /Seq:4 of 5
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

CATION OF LAND

N METRES



1:4000

Vol. 13523 Fol. 236

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	Signature of Registrar General

NEW CERTIFICATE(S) OF TITLE ISSUING ON DP259146
NO DEALING TO BE REGISTERED WITHOUT REFERENCE TO SURVEY DRAFTING BRANCH

SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
		Interests created pursuant to Section 88B Conveyancing Act, 1919				
		by the registration of Deposited Plan 259146	10.12.1979			

This deed is cancelled as to The Whole
New certificates of Title have issued on 24-1-1980
for lots in Deposited Plan No 259146 as follows:
Lots 1 - 16 Vol 14043 Fol 1 - 16 respectively.

REGISTRAR GENERAL

(Page 4 of 4 pages)

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

Req:R601339 /Doc:CT 13523-236 CT /Rev:10-Jan-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:12 /Seq:5 of 5
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

Req:R601326 /Doc:CT 14043-003 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:1 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

14043003

[redacted]TICATE OF TITLE

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

IVA No. 21794

Prior Title Vol.13523 Fol.236

Vol. 14043 Fol. 3

EDITION ISSUED

CANCELLED 25 1 1980

(Page 1) Vol. 14043 Fol. 3

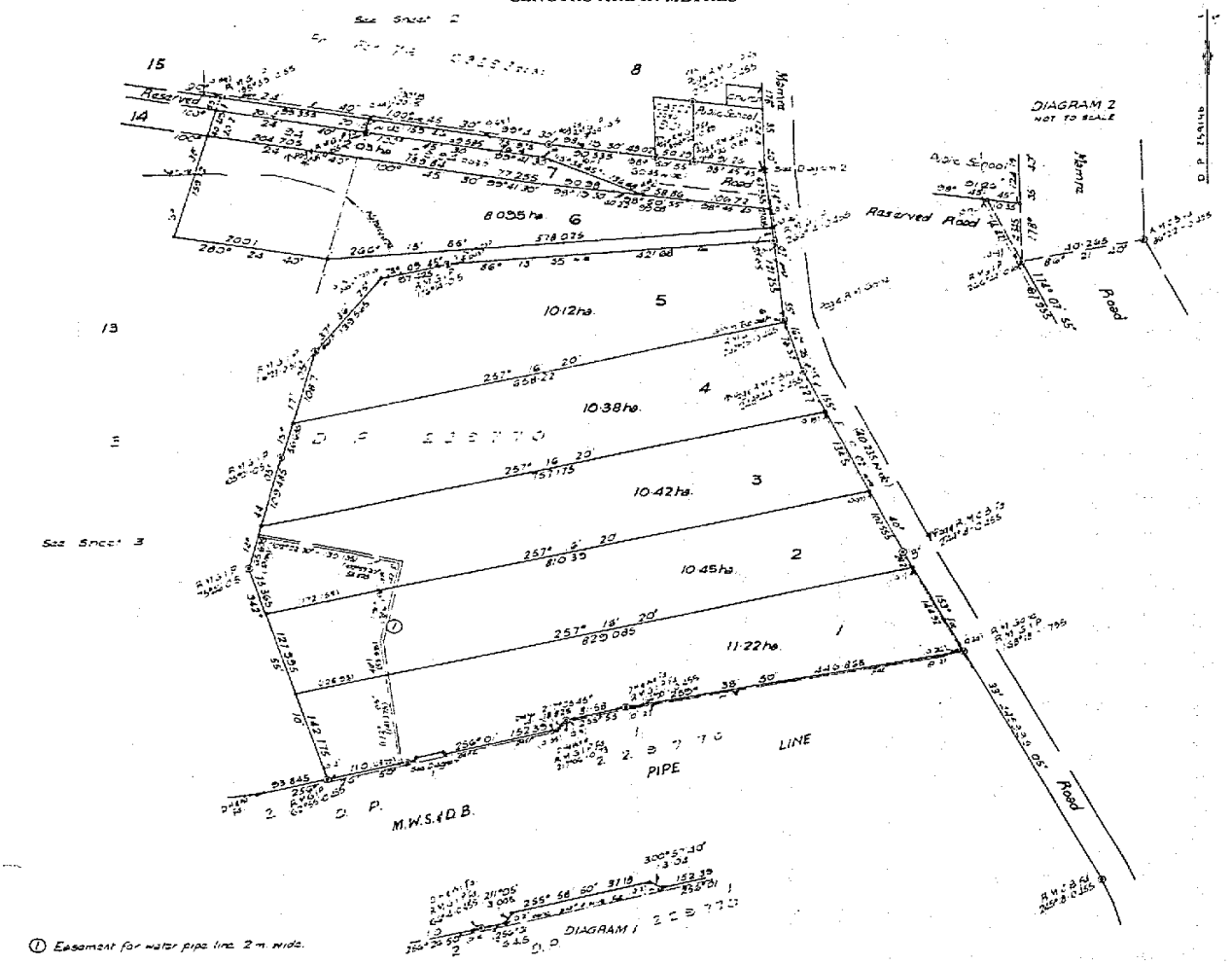
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

SEE AUTO FOLIO

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 3 in Deposited Plan 259146 at Erskine Park in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 51 granted to James Scott on 9-1-1821 and part of Portion 50 granted to Henry Bayly on 9-7-1822.

FIRST SCHEDULE

THE COMMERCIAL BANKING COMPANY OF SYDNEY LIMITED. MORTGAGEE

SECOND SCHEDULE

GR4 QG

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in Section 28A of the Real Property Act, 1900). Registered 16-1-1978.
3. Q160000 Caveat by the Registrar General; mortgagor Mandalong Investments Pty. Limited. Book 3249 No. 450. Registered 16-1-1978.

EA(SB)

4. DP259146 Easement for water pipeline affecting the part of the land above described shown so burdened in Deposited Plan 259146.

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

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

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

Vol. 14043 Fol. 3

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	Signature of Registrar General
	NATURE	NUMBER		

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER					

(Page 2 of 2 pages)

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

Req:R601326 /Doc:CT 14043-003 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:2 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKame Road, Orchard Hills

Req:R601325 /Doc:CT 14043-004 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:1 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

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

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

[redacted]ICATE OF TITLE

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

4043004

IVA No. 21794

Prior Title Vol.13523 Fol.236

Vol. 14043 Fol. 4

EDITION ISSUED

CANCELLED 25 | 1980

(Page 1) Vol. 14043 Fol. 4

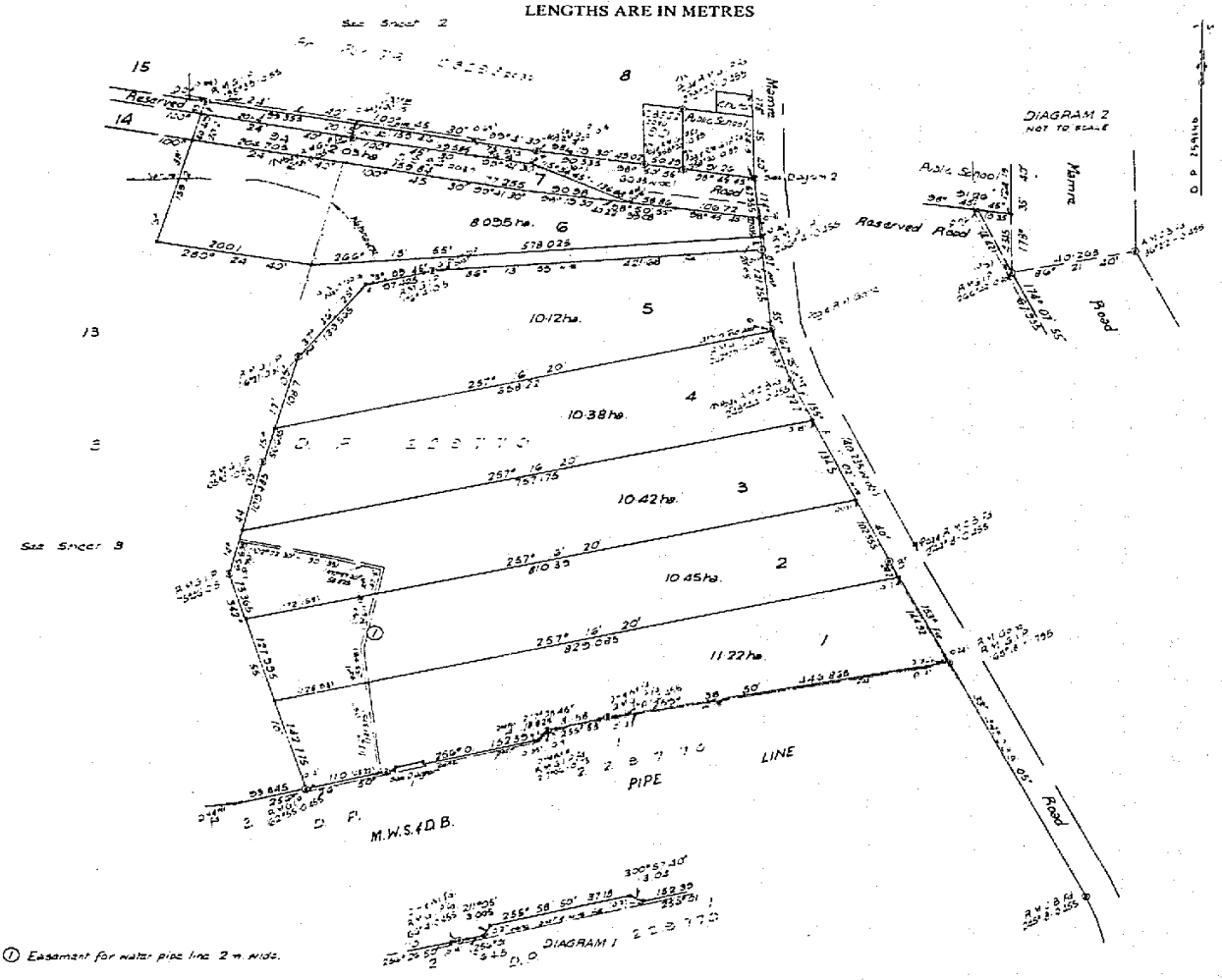
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

SEE AUTO FOLIO

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



① Easement for water pipe line 2 m. wide.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 4 in Deposited Plan 259146 at Erskine Park in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 51 granted to James Scott on 9-1-1821 and part of Portion 50 granted to Henry Bayly on 9-7-1822.

FIRST SCHEDULE

THE COMMERCIAL BANKING COMPANY OF SYDNEY LIMITED. MORTGAGEE

SECOND SCHEDULE

GR4
QG

1. Reservations and conditions, if any, contained in the Crown Grants above referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in Section 28A of the Real Property Act, 1900). Registered 16-1-1978.
- RX 3. Q160000 Caveat by the Registrar General; mortgagor Mandalong Investments Pty. Limited. Book 3249 No. 450. Registered 16-1-1978.

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

Vol. 14043 Fol. 4

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	Signature of Registrar General
	NATURE	NUMBER		

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER					

(Page 2 of 2 pages)

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

Req:R601325 /Doc:CT 14043-004 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:2 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKame Road, Orchard Hills

Req:R601324 /Doc:CT 14043-005 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:1 of 2
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

[redacted]FICATE OF TITLE

NEW SOUTH WALES

[redacted]L PROPERTY ACT, 1900

14043005

IVA No. 21794

Prior Title Vol.13523 Fol.236

Vol. 14043 Fol. 5

EDITION ISSUED

CANCELLED 25 | 1980

(Page 1) Vol. 14043 Fol. 5

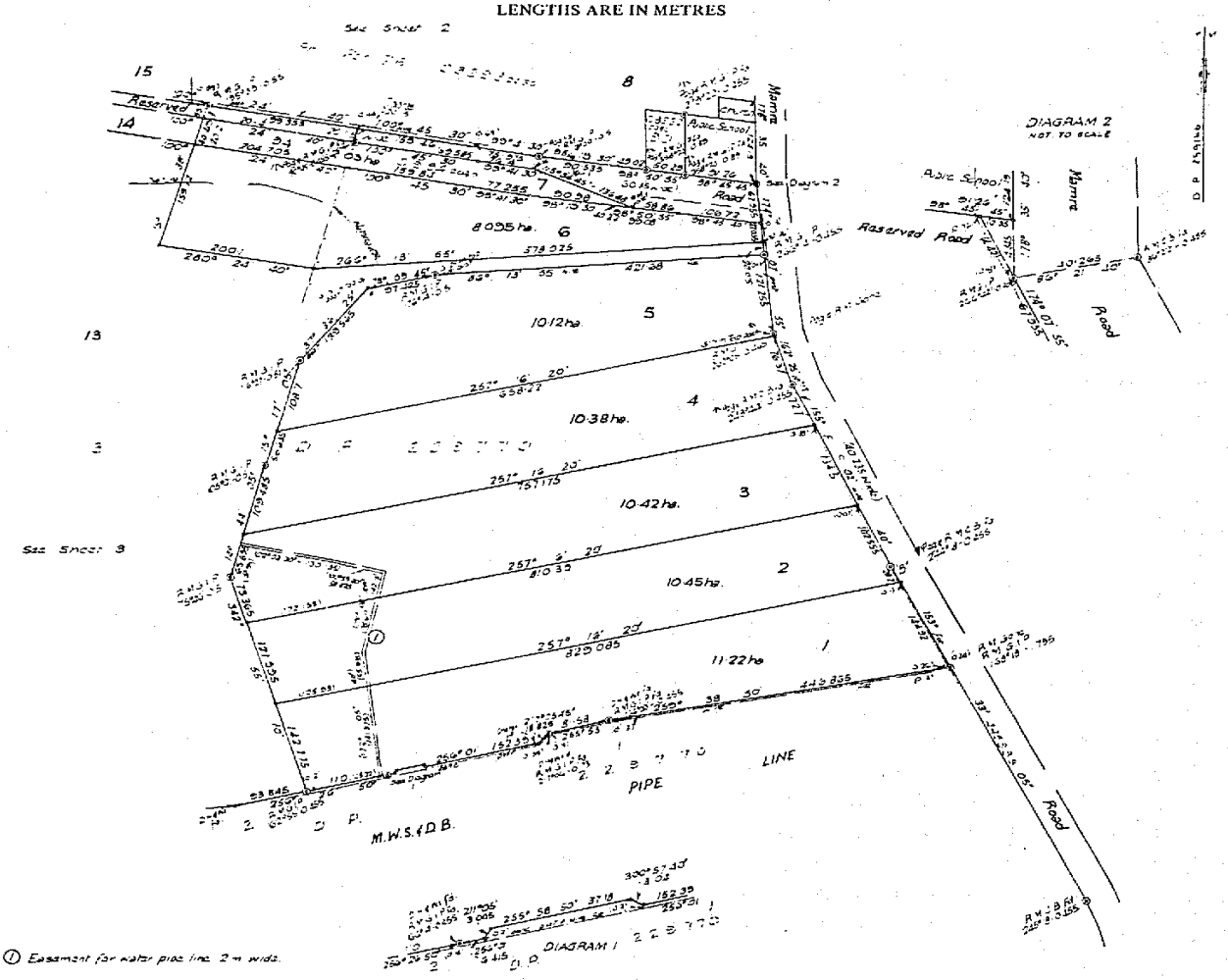
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

SEE AUTO FOLIO

Registrar General.

PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



① Easement for water pipe line 2 m wide.

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 5 in Deposited Plan 259146 at Erskine Park in the City of Penrith Parish of Melville and County of Cumberland being part of Portion 50 granted to Henry Bayly on 9-7-1822.

FIRST SCHEDULE

THE COMMERCIAL BANKING COMPANY OF SYDNEY LIMITED. MORTGAGEE

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in Section 28A of the Real Property Act, 1900). Registered 16-1-1978.
3. Q160000 Caveat by the Registrar General; mortgagor Mandalong Investments Pty. Limited. Book 3249 No. 450. Registered 16-1-1978.

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

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

RG 2/62

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

Vol. 14043 Fol. 5

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	Signature of Registrar General
	NATURE	NUMBER		

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS	REGISTERED	Signature of Registrar General	CANCELLATION	
NATURE	NUMBER					

(Page 2 of 2 pages)

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

Req:R601324 /Doc:CT 14043-005 CT /Rev:01-Mar-2011 /NSW LRS /Pgs:ALL /Prt:30-Mar-2021 16:11 /Seq:2 of 2
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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
31/3/2021 7:38AM

FOLIO: 3/259146

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14043 FOL 3

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
24/9/1987		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
18/11/1993		AMENDMENT: LOCAL GOVT AREA	
17/7/2000	6948587	DEPARTMENTAL DEALING	
17/7/2000	DP1013539	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
31/3/2021 7:38AM

FOLIO: 4/259146

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14043 FOL 4

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
24/9/1987		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
18/11/1993		AMENDMENT: LOCAL GOVT AREA	
17/7/2000	DP1013539	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
31/3/2021 7:38AM

FOLIO: 5/259146

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 14043 FOL 5

Recorded	Number	Type of Instrument	C.T. Issue
5/6/1987		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
24/9/1987		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
18/11/1993		AMENDMENT: LOCAL GOVT AREA	
17/7/2000	DP1013539	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
30/3/2021 3:57PM

FOLIO: 217/1013539

First Title(s): OLD SYSTEM VOL 10712 FOL 105
LOTS 3 TO 5 ONLY Prior Title(s): 1-7/259146 ~~13-14/259146~~

Recorded	Number	Type of Instrument	C.T. Issue
17/7/2000	DP1013539	DEPOSITED PLAN	FOLIO CREATED EDITION 1
7/9/2000	7075769	DEPARTMENTAL DEALING	EDITION 2
7/11/2000	7204107	TRANSFER	EDITION 3
2/11/2012	DP1153854	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Req:R603273 /Doc:DL 7204107 /Rev:14-Nov-2000 /NSW LRS /Pgs:ALL /Prt:31-Mar-2021 07:41 /Seq:1 of 1
© Office of the Registrar-General /Src:INFOTRACK /Ref:585-649 INFOTRACKamre Road, Orchard Hills

Form: 97-01T
Licence: 10V/0096/95
Printed: 0897LTO

TRANSFER

New South Wales

Real Property Act 1900

Instructions for filling out this form are available from the Land Titles Office

Office of State Revenue use only

(A) **LAND TRANSFERRED**
If appropriate, specify the share or part transferred.

Identifier 217/1013539 part formerly in
1-6/259146 (incl.) & 13/259146

(B) **LODGED BY**

LTO Box	Name, Address or DX and Telephone
1620	CHURCH & GRACE LEVEL 9, 1 CHIFLEY SQUARE SYDNEY NSW 2000 TELEPHONE: 9233 1155 FAX: 9221 6771 DX 114 SYDNEY Reference (15 character maximum): 2276 Mandalong

(C) **TRANSFEROR** NATIONAL AUSTRALIA BANK LIMITED ABN 12 004 044 937

(D) acknowledges receipt of the consideration of $1.00 (One dollar) by release of mortgage
and as regards the land specified above transfers to the transferee an estate in fee simple.

(E) Encumbrances (if applicable): 1. ..... 2. ..... 3. .....
$ OFF QG.
RX @160000 Q

(F) **TRANSFEREE**

T TS (s713 LGA) TW (Sheriff)	MANDALONG INVESTMENTS PTY. LIMITED A.C.N. 000 223 754

(G) **TENANCY:** C 1

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE** 24th October, 2000

Signed in my presence by the transferor who is personally known to me.

Signed in my presence
by Fiona Mary FERGUSON
the Attorney of National Australia
Signature of Witness pursuant to Power of
Attorney Registered No. 549
Book 3884 who is personally
known to me.

Name of Witness (BLOCK LETTERS) GRIFFITH

Address of Witness
Bank Officer
255 George Street, Sydney NSW

Signed for and on behalf of
National Australia Bank Limited
by its said Attorney.

Manager

Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee's Solicitor

If signed on the transferee's behalf by a solicitor or licensed conveyancer, show the signatory's full name in block letters.
Neville Holmes Grace, 1 Chifley Square, Sydney

Q 160000

Checked by (LTO use) .....

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
30/3/2021 3:57PM

FOLIO: 2171/1153854

First Title(s): OLD SYSTEM
Prior Title(s): 217/1013539

Recorded	Number	Type of Instrument	C.T. Issue
2/11/2012	DP1153854	DEPOSITED PLAN	FOLIO CREATED EDITION 1
18/12/2014	AJ123715	CAVEAT	
17/9/2015	DP1212505	DEPOSITED PLAN	EDITION 2
15/12/2015	AK70562	TRANSFER	EDITION 3
14/1/2016	AK134990	CAVEAT	
4/10/2016	AK807510	REQUEST	EDITION 4
19/10/2016	AK850495	CAVEAT	
22/8/2017	AM665631	MORTGAGE	EDITION 5 CORD ISSUED
17/5/2018	DP1242213	DEPOSITED PLAN	EDITION 6 CORD ISSUED
9/11/2018	DP271141	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Req:R603279 /Doc:DL AK070562 /Rev:17-Dec-2015 /NSW LRS /Pgs:ALL /Prt:31-Mar-2021 07:43 /Seq:1 of 1
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Form: 01T
Licence: 05-11-638
Licensee: Softdocs
HWL Ebsworth

TRANSFER

New South Wales
Real Property Act 1900

AK70562H

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

STAMP DUTY Office of State Revenue use only

Office of State Revenue (NSW)
Client No: 1411509
Duty: $10
Trans No: 8024527-001 3876
9/3/15
Asst details:

(A) **TORRENS TITLE** 2171/1153854

(B) **LODGED BY**

Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any	CODES
106G	LLPN: 123843H SAI GLOBAL Property DX 885 SYDNEY 02 9210 0700 Reference (optional): S2239983 HWL	T TW

(C) **TRANSFEROR** MANDALONG INVESTMENTS PTY LTD ABN 21 000 223 754

(D) **CONSIDERATION** The transferor acknowledges receipt of the consideration of $ in accordance with the contract of sale dated 9/12/14 and as regards the land

(E) **ESTATE** specified above transfers to the transferee an estate in fee simple.

(F) **SHARE TRANSFERRED**

(G) Encumbrances (if applicable):

(H) **TRANSFEREE** THE TRUST COMPANY (AUSTRALIA) LIMITED ACN 000 000 993

(I) **TENANCY:**

DATE 9 / 12 / 2015

(J) Certified correct for the purposes of the Real Property Act 1900 and executed on behalf of the company named below by the authorised person(s) whose signature(s) appear(s) below pursuant to the authority specified.
Company: MANDALONG INVESTMENTS PTY LTD
ABN 21 000 223 754
Authority: Section 127(1) of the Corporations Act 2001

Signature of authorised person:
Name of authorised person:
Office held:

Signature of authorised person:
Name of authorised person: RICCARDO PISATURO
Office held: SOLE DIRECTOR & SECRETARY

Certified correct for the purposes of the Real Property Act 1900 by the person whose signature appears below.

Signature:

Signatory's name: Maria Caramanlis
Capacity: Solicitor for the transferee

(K) The transferee's solicitor certifies that the eNOS data relevant to this dealing has been submitted and stored under eNOS ID No. 472091 Full Name: ~~Maria Caramanlis~~ Raj Patel Signature:

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

ALL HANDWRITING MUST BE IN BLOCK CAPITALS

Number additional pages sequentially

OFF x AJ123715

Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
30/3/2021 3:57PM

FOLIO: 7/271141

First Title(s): OLD SYSTEM
Prior Title(s): 2171/1153854

Recorded	Number	Type of Instrument	C.T. Issue
9/11/2018	DP271141	DEPOSITED PLAN	FOLIO CREATED EDITION 1 CORD ISSUED
17/10/2019	AP611692	WITHDRAWAL OF CAVEAT	
10/12/2019	DP271141	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
30/3/2021 3:57PM

FOLIO: 9/271141

First Title(s): OLD SYSTEM
Prior Title(s): 2171/1153854

Recorded	Number	Type of Instrument	C.T. Issue
9/11/2018	DP271141	DEPOSITED PLAN	FOLIO CREATED EDITION 1 CORD ISSUED
17/10/2019	AP611692	WITHDRAWAL OF CAVEAT	
10/12/2019	DP271141	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

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Historical Title

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
30/3/2021 3:57PM

FOLIO: 10/271141

First Title(s): OLD SYSTEM
Prior Title(s): 7/271141 9/271141

Recorded	Number	Type of Instrument	C.T. Issue
10/12/2019	DP271141	DEPOSITED PLAN	FOLIO CREATED EDITION 1 CORD ISSUED
7/4/2020	AP950248	VARIATION OF EASEMENT	
26/8/2020	AQ184193	REJECTED - REQUEST	
18/12/2020	AQ619225	CAVEAT	
17/3/2021	DP1267833	DEPOSITED PLAN	

*** END OF SEARCH ***

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Title Search

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 10/271141

SEARCH DATE	TIME	EDITION NO	DATE
30/3/2021	3:56 PM	1	10/12/2019

NO CERTIFICATE OF TITLE HAS ISSUED FOR THE CURRENT EDITION OF THIS FOLIO.
CONTROL OF THE RIGHT TO DEAL IS HELD BY NATIONAL AUSTRALIA BANK LIMITED.

LAND

LOT 10 IN COMMUNITY PLAN DP271141
AT ORCHARD HILLS
LOCAL GOVERNMENT AREA PENRITH
PARISH OF MELVILLE COUNTY OF CUMBERLAND
TITLE DIAGRAM DP271141

FIRST SCHEDULE

THE TRUST COMPANY (AUSTRALIA) LIMITED

SECOND SCHEDULE (22 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 INTERESTS RECORDED ON REGISTER FOLIO 1/271141
3 ATTENTION IS DIRECTED TO THE MANAGEMENT STATEMENT OF THE COMMUNITY SCHEME FILED WITH THE COMMUNITY PLAN
4 DP1013539 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (1) IN THE S.88B INSTRUMENT
5 DP1013539 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (2) IN THE S.88B INSTRUMENT
6 DP1013539 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (10) IN THE S.88B INSTRUMENT
7 DP1013539 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (11) IN THE S.88B INSTRUMENT
8 DP1153854 RIGHT OF CARRIAGEWAY VARIABLE WIDTH APPURTENANT TO THE LAND ABOVE DESCRIBED
* 9 AK134990 CAVEAT BY MANDALONG INVESTMENTS PTY LTD
* AK807510 CAVEATOR CONSENTED
* AM665631 CAVEATOR CONSENTED
10 AK807510 PLANNING AGREEMENT PURSUANT TO SECTION 7.6 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979
11 AM665631 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED
12 DP271141 EASEMENT TO DRAIN WATER 10 & 20 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)
13 DP271141 EASEMENT FOR WATER SUPPLY PURPOSES 3 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

END OF PAGE 1 - CONTINUED OVER

FOLIO: 10/271141 PAGE 2

SECOND SCHEDULE (22 NOTIFICATIONS) (CONTINUED)

14 DP271141 RESTRICTION(S) ON THE USE OF LAND REFERRED TO AND NUMBERED (5) IN THE S.88B INSTRUMENT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

15 DP271141 POSITIVE COVENANT REFERRED TO AND NUMBERED (6) IN THE S.88B INSTRUMENT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

16 DP271141 EASEMENT FOR SEWERAGE PURPOSES 3, 4 & 4.6 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

17 DP271141 EASEMENT FOR SERVICES VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

18 DP271141 RIGHT OF ACCESS VARIABLE WIDTH AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.1)

19 DP271141 EASEMENT FOR EMERGENCY ACCESS 6 METRE(S) WIDE AND VARIABLE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.2)

* AP950248 VARIATION OF EASEMENT DP271141 TERMS VARIED

20 DP271141 EASEMENT FOR DRAINAGE OF WATER 4 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.2)

21 DP271141 EASEMENT FOR UNDERGROUND CABLES 3 METRE(S) WIDE AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM (DOC.2)

* 22 AQ619225 CAVEAT BY SNACK BRANDS INDUSTRIES PTY LTD

NOTATIONS

UNREGISTERED DEALINGS: M AQ252129.

*** END OF SEARCH ***

585-649 Mamre Road, Orchard Hills PRINTED ON 30/3/2021

* Any entries preceded by an asterisk do not appear on the current edition of the Certificate of Title. Warning: the information appearing under notations has not been formally recorded in the Register. InfoTrack an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with Section 96B(2) of the Real Property Act 1900.

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Appendix E Section 10.7 Planning Certificates

PENRITH CITY COUNCIL

Civic Centre
601 High Street, Penrith

PO Box 60 Penrith NSW 2751

Telephone: 02 4732 7777
Facsimile: 02 4732 7958

Email: pencit@penrithcity.nsw.gov.au

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Property No: 801811
Your Reference: 60586
Contact No:

Issue Date: 22 March 2021
Certificate No: 21/01446

Issued to: Jbs&G Australia
1/50, Margaret Street
SYDNEY NSW 2000

PRECINCT 996

DESCRIPTION OF LAND

County: CUMBERLAND **Parish: MELVILLE**

Location: 14 Distribution Drive ORCHARD HILLS NSW 2748
Land Description: Lot 10 DP 271141

- PART 1 PRESCRIBED MATTERS –

In accordance with the provisions of Section 10.7(2) of the Act the following information is furnished in respect of the abovementioned land:

1 NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan No. 255 - Exempt and Complying Development, gazetted 24 March 2000, as amended, applies to land within the City of Penrith. (Note: This plan does not apply to the land to which Sydney Regional Environmental Plan No.30 - St Marys applies, except as provided by clause 43 of SREP No. 30 - St Marys.)

Penrith Local Environmental Plan No. 258 - Consent for Dwelling Houses and Other Development, gazetted 29 June 2001, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

State Environmental Planning Policy No.21 - Caravan Parks.
State Environmental Planning Policy No.33 - Hazardous and Offensive Development.
State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.
State Environmental Planning Policy No.55 - Remediation of Land.
State Environmental Planning Policy No.64 - Advertising and Signage.
State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development.
State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4, 4A and 4B of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (State Significant Precincts) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.
State Environmental Planning Policy (State and Regional Development) 2011.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.
State Environmental Planning Policy (Educational Establishments and Child Care Centre Facilities) 2017.
State Environmental Planning Policy (Primary Production and Rural Development) 2019.
State Environmental Planning Policy (Western Sydney Aerotropolis) 2020.

State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land. Under the terms of this Policy the land is zoned Zone IN1 General Industrial.

Zone IN1 General Industrial

1 Objectives of zone

- To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary office space.
- To encourage employment opportunities along motorway corridors, including the M7 and M4.
- To minimise any adverse effect of industry on other land uses.
- To facilitate road network links to the M7 and M4 Motorways.
- To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment.
- To provide for small-scale local services such as commercial, retail and community facilities (including child care facilities) that service or support the needs of employment-generating uses in the zone.

2 Permitted without consent

Nil.

3 Permitted with consent

Building identification signs; Business identification signs; Depots; Environmental facilities; Environmental protection works; Food and drink premises; Freight transport facilities; Garden centres; Hardware and building supplies; Industrial retail outlets; Industrial training facilities; Industries (other than offensive or hazardous industries); Neighbourhood shops; Places of public worship; Recreation areas; Recreation facilities (indoor); Roads; Service stations;

Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres.

4 Prohibited

Any development not specified in item 2 or 3.

Note 1: Land to which State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies may be subdivided but only with consent. Consent is not required for subdivision detailed in Clause 14(2) of this Policy.

Note 2: Under the terms of Clause 15 of State Environmental Planning Policy (Western Sydney Employment Area) 2009 despite any other provision of this Policy, a person may, with consent, carry out development for the purposes of a child care centre on land to which this Policy applies.

1(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft State Environmental Planning Policy (Housing Diversity) 2020 applies to the land.

Draft State Environmental Planning Policy (Cumberland Plain Conservation) applies to the land.

Draft State Environmental Planning Policy (Infrastructure) 2007 applies to the land.

Draft State Environmental Planning Policy (Educational Establishments and Child Care Centre Facilities) 2017 applies to the land.

Draft State Environmental Planning Policy (Design and Place) applies to the land.

Draft State Environmental Planning Policy (Primary Production and Rural Development) 2019 applies to the land.

Draft State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Mamre West Land Investigation Area Development Control Plan applies to the land. Mamre West DCP was made effective 9 August 2016.

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PLANNING CERTIFICATE UNDER SECTION 10.7

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2 ZONING AND LAND USE UNDER RELEVANT LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Penrith Local Environmental Plan No. 258 - Consent for Dwelling Houses and Other Development

In addition to any controls detailed above Penrith Local Environmental Plan No. 258 - Consent for Dwelling Houses and Other Development sets out further circumstances where development consent will be required for particular development. A copy of this LEP is attached.

2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

(Information is provided in this section only if any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

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3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Rural Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

LOW RISE HOUSING DIVERSITY CODE

(The Low Rise Housing Diversity Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Low Rise Housing Diversity Code **may** be carried out on the land if the land is within one of the abovementioned zones.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

Complying development under the Greenfield Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.

HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code **may** be carried out on the land.

GENERAL DEVELOPMENT CODE

Complying development under the General Development Code **may** be carried out on the land.

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COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

Complying development under the Commercial and Industrial Alterations Code **may** be carried out on the land.

SUBDIVISIONS CODE

Complying development under the Subdivisions Code **may** be carried out on the land.

DEMOLITION CODE

Complying development under the Demolition Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Commercial and Industrial (New Buildings and Alterations) Code **may** be carried out on the land if the land is within one of the abovementioned zones.

FIRE SAFETY CODE

Complying development under the Fire Safety Code **may** be carried out on the land.

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

The land is not affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993, or
(b) an environmental planning instrument, or
(c) a resolution of council.

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7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies

The land is affected by the Asbestos Policy adopted by Council.
The land is not affected by any other policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

(b) Other Public Authority Policies

The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.
The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) if such uses are permissible on the land. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

(2) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for any other purpose not referred to in (1) above. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

8 LAND RESERVED FOR ACQUISITION

No environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

Penrith Citywide Section 7.12 Development Contributions Plan for non-residential development applies to all land in the City of Penrith LGA, with the exception of land within the Lambridge Estate, WELL Precinct and Penrith City Centre that are currently subject to other development contributions plans for non-residential development.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates.)

10A NATIVE VEGETATION CLEARING SET ASIDES

(Information is provided in this section only if Council has been notified of the existence of a set aside area by Local Land Services or it is registered in the public register under which section 60ZC of the *Local Land Services Act 2013* relates).

11 BUSH FIRE PRONE LAND

All of the land is identified as bush fire prone land according to Council records. Guidance as to restrictions that may be placed on the land as a result of the land being bush fire prone can be obtained by contacting Council. Such advice would be subject to further requirements of the NSW Rural Fire Services.

12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) that a provision of an environmental

planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

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

(a) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

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(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the Home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any "affected building notice" and/or a "building product rectification order" in force for the land).

22 STATE ENVIRONMENTAL PLANNING POLICY – WESTERN SYDNEY AEROTROPOLIS 2020

The land may be subject to additional planning considerations under State Environmental Planning Policy (Western Sydney Aerotropolis) 2020):

	Planning Control	Affected?
(a)	Subject to an ANEF or ANEC contour of 20 or greater	No
(b)	Affected by the Lighting Intensity and Wind Shear Map	No
(c)	Affected by the Obstacle Limitation Surface Map	Yes
(d)	Affected by the "public safety area" on the Public Safety Area Map	No
(e)	Within the "3km zone" or the "13km zone" of the Wildlife Buffer Zone Map	Yes

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

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10.7(5) Certificate
This Certificate is directed to the following relevant matters affecting the land

When information pursuant to section 10.7(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 10.7(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- Council's 10.7(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council's Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au . Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

* Biodiversity Conservation Act 2016

When considering any development application Council must have regard to the Biodiversity Conservation Act 2016. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

* Preservation of Trees or Vegetation

Clause 32 of State Environmental Planning Policy (Western Sydney Employment Area) 2009 details requirements relating to the preservation of trees or vegetation.

* Agricultural Activities Within Rural Areas

This property is located in a rural area and there may be certain agricultural activities occurring that some people may find offensive (for example noise, dust and odours). This should be considered if you purchase the subject property or build a dwelling thereon.
If you do purchase the subject property or build a dwelling, the potential impact that your activities (for example pets, inadequate fencing, drainage, litter and poor weed control) might have on the agricultural activities in the area should also be considered.

* Restrictions as to User

This property is subject to restriction(s) as to user. See current or previous Section 88B Instrument(s) for details.

* Covenant(s)

This land is affected by a covenant or covenants.

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Environmental Planning and Assessment Act, 1979

Warwick Winn
General Manager

PER

Please note:
Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.
The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.
Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

Attachment

Penrith Local Environmental Plan No 258 - Consent for Dwelling Houses and Other Development

1 Name of plan

This plan is *Penrith Local Environmental Plan No 258 - Consent for Dwelling Houses and Other Development.*

2 Aims of plan

This plan aims to:

(a) require development consent for dwelling houses on residentially zoned land within the City of Penrith, and

(b) require development consent for dwelling houses on land within the Non-urban zone under the *Penrith Planning Scheme Ordinance* and on land within the Special Business zone under *Penrith Local Environmental Plan 1997 (Penrith City Centre)*, and

(c) require development consent for dwelling houses attached to and used in conjunction with shops on land within the Neighbourhood Business zone under the *Penrith Planning Scheme Ordinance*, and

(d) require development consent for the following:

(i) the erection of a building or structure ordinarily associated with a dwelling house,
(ii) a change of building use,

Note. At the commencement of this plan, **a change of building use** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

(iii) demolition of a building or structure,
(iv) carrying out structural alterations to a building, internal alterations to a building, or external building work in association with business premises, a bed and breakfast establishment, office premises, commercial premises or take away food shops,
(v) the subdivision of land,

to the extent to which such development does not already require development consent because of another environmental planning instrument in order to be carried out.

3 Land to which plan applies

This plan applies to all land within the City of Penrith.

4 Relationship to other environmental planning instruments

(1) In the event of an inconsistency between this plan and any other local environmental planning instrument or deemed environmental planning instrument, this plan shall prevail to the extent of the inconsistency, subject to section 36 (4) of the Act.

(2) This plan amends:

(a) *Penrith Planning Scheme Ordinance* in the manner set out in Schedule 1,

(b) *Penrith Local Environmental Plan 1997 (Penrith City Centre)* in the manner set out in Schedule 2, and

(c) *Penrith Local Environmental Plan 1998 (Urban Land)* in the manner set out in Schedule 3.

(3) This plan does not affect the application of:

(a) *State Environmental Planning Policy No 3 - Castlereagh Liquid Waste Disposal Depot,*

(b) State Environmental Planning Policy No 27 - Prison Sites,

(c) Sydney Regional Environmental Plan No 9 - Extractive Industry,

(d) Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme,

(e) Sydney Regional Environmental Plan No 20 - Hawkesbury-Nepean River (No 2-1997),

(f) Sydney Regional Environmental Plan No 30 - St Marys, or

(g) Penrith Local Environmental Plan No 255 - Exempt and Complying Development,

to land to which this plan applies.

5 Definitions

(1) In this plan:

a building or structure ordinarily associated with a dwelling house means a garage, carport, pergola, swimming pool, and the like, and includes alterations and additions to an existing dwelling house.

change of building use has the same meaning as in the Act.

Note. At the commencement of this plan, a ***change of building use*** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

dwelling means a room or number of rooms occupied or used, or so constructed or adapted as to be capable of being occupied or used, as a separate domicile.

dwelling house means a dwelling which is the only dwelling erected on an allotment of land.

subdivision of land has the same meaning as in the Act.

the Act means the *Environmental Planning and Assessment Act 1979.*

(2) The list of contents and notes in this plan are not part of this plan.

6 Dwelling houses require development consent

(1) The erection of a dwelling house must not be carried out without development consent.

(2) This clause applies to residentially zoned land within the City of Penrith.

(3) This clause applies if the development:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument.

7. Miscellaneous development that requires development consent

(1) The following development must not be carried out without development consent:

(a) erection of a building or structure ordinarily associated with a dwelling house, or

(b) development that results in a change of building use, or

(c) demolition of a building or structure, or

(d) structural, internal or external building work in association with business premises, a bed and breakfast establishment, office premises, commercial premises or take away food shops.

(2) This clause applies if the development:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument, and

(c) is not identified in *Penrith Local Environmental Plan No 255 - Exempt and Complying Development* as exempt development, and

(d) does not involve Crown building work as defined in section 116G of the Act.

8 Subdivisions require development consent

(1) A subdivision of land must not be carried out without development consent.

(2) This clause applies if the subdivision of land:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument, and

(c) is not identified in *Penrith Local Environmental Plan No 255 - Exempt and Complying Development* as exempt development, and

(d) does not involve Crown building work as defined in section 116G of the Act.

Schedule 1 Amendment of Penrith Planning Scheme Ordinance

(Clause 4 (2) (a))

[1] Clause 4 Interpretation
Omit the definition of ***Country dwelling.***

[2] Clause 26 Erection or use of buildings or works
Omit "country dwellings;" from Column III for Zone No 1 of the Table to the clause.

[3] Clause 26, Table
Omit "dwelling-houses other than country dwellings and rural dwellings;" from Column V for Zone No. 1.

[4] Clause 26, Table
Omit "Dwelling-houses other than semi-detached and terrace buildings." from Column III for Zone No 2(a).

[5] Clause 26, Table
Omit "Residential buildings." from Column III for Zone No 2 (b).

[6] Clause 26, Table
Omit "Dwelling-houses other than semi-detached or terrace buildings." from Column III for Zone No 2 (c).

[7] Clause 26, Table
Omit ";dwelling-houses attached to and used in conjunction with shops" from Column III for Zone No 3 (c).

[8] Clause 26, Table
Omit "Purposes" from Column IV for Zone No 3(c).

Insert instead "Buildings or other structures ordinarily associated with dwelling houses; changes of building use (as defined in the *Environmental Planning and Assessment Act 1979)*; dwelling-houses attached to and used in conjunction with shops; demolition of buildings or other structures; land uses and premises".

[9] Clause 26, Table
Insert "; structural or internal alterations to, or external building work in association with, commercial premises or refreshment rooms" after "roads" in Column IV for Zone No 3(c).

[10] Clause 38 Development in residential zones
Omit the clause.

[11] Clause 46 Variation of area required for country dwelling
Omit the clause.

Schedule 2 Amendment of Penrith Local Environmental

Plan 1997 (Penrith City Centre)

(Clause 4 (2) (b))

[1] Clause 9 Zone objectives and development control table

Omit from item (b) (i) **Without development consent** for Zone No 2 (f) in the Development Control Table:

- dwelling-houses

[2] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zone No 2 (f):

- buildings or other structures ordinarily associated with dwelling-houses
- demolition of buildings or other structures
- dwelling-houses

[3] Clause 20 Development of land within Zone No 3 (a)

Insert "where the new use does not involve structural or internal alterations or external buildings works" after the words "or take away food shops".

Schedule 3 Amendment of Penrith Local Environmental Plan 1998 (Urban Land)

(Clause 4 (2) (c))

[1] Clause 9 Zone objectives and development control table

Omit wherever occurring from item (b) (i) **Without development consent** for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e) in the Development Control Table:

- dwelling houses

[2] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e):

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- dwelling houses
- internal structural work in bed and breakfast establishments

[3] Clause 9, table

Insert in alphabetical order in item b (ii) **Only with development consent** for Zones Nos 2 (r) and 2 (r1);

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- structural or internal alterations to bed and breakfast establishments

[4] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zone No 3 (f):

- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- external building work associated with an existing land use carried out with consent
- structural or internal alterations to a building or other structure erected with consent or building approval

Appendix F EPA Records

Number	Name	Location	Type	Status	Issued date	Scheduled Activity	Comments
20402	SAPUTO DAIRY AUSTRALIA PTY LTD	111-113 Quarry Road, ERSKINE PARK, NSW 2759	POEO licence	Issued	16-May-14	Agricultural processing (Dairy)	~.9 km E, water course between site and licensee
1581199	SAPUTO DAIRY AUSTRALIA PTY LTD	111-113 Quarry Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	3-Jul-19		
21464	TYRECYCLE PTY LTD	1-21 GRADY CRESCENT, ERSKINE PARK, NSW 2759	POEO licence	Pending		Waste storage - waste tyres	~3km NE, water course between site and licensee , license pending
13154	RECKITT BENCKISER (AUSTRALIA) PTY LIMITED	23-107 Erskine Park Road, ERSKINE PARK, NSW 2759	POEO licence	Complete	14-Oct-09	Chemical Storage	Warehouse - ~1.1 km NE, water course between site and licensee, license surrendered Aug 18
1527421	RECKITT BENCKISER (AUSTRALIA) PTY LIMITED	23-107 Erskine Park Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	16-Jan-15		
1563244	RECKITT BENCKISER (AUSTRALIA) PTY LIMITED	23-107 Erskine Park Road, ERSKINE PARK, NSW 2759	s.80 Surrender of a Licence	Issued	21-Aug-18		
1602275		4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	22-Dec-20		
4865	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	POEO licence	Issued	27-Jun-01	Waste disposal (application to land)	~1.1 km NE, water course between site and licensee,
1028719	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	4-Jul-03		
1053138	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	2-Dec-05		
1060804	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	29-May-06		
1067269	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	15-Mar-07		
1074334	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	16-Jul-07		
1077901	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	2-Sep-08		
1095272	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	28-Nov-08		
1114405	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	31-May-11		
1505834	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	8-May-12		
1508294	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	27-Aug-12		
1508965	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	11-Oct-12		
1513491	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	3-May-13		
1528025	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	17-Apr-15		
1569274	ENVIROGUARD PTY LIMITED	4 QUARRY ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	20-Mar-19		
20634	RETAIL READY OPERATIONS AUSTRALIA PTY. LTD.	54-70 TEMPLAR ROAD, ERSKINE PARK, NSW 2759	POEO licence	Issued	11-Aug-15	Livestock processing activities	~1.9km E, water course between site and licensee
1582339	RETAIL READY OPERATIONS AUSTRALIA PTY. LTD.	54-70 TEMPLAR ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	4-Nov-20		
20986	CLEANAWAY PTY LTD	85-87 Quarry Road, ERSKINE PARK, NSW 2759	POEO licence	Issued	18-Sep-17	Chemical storage, Waste processing (non-thermal treatment), Waste storage	Waste Transfer Station - ~.7km E, water course between site and licensee
1572918	CLEANAWAY PTY LTD	85-87 Quarry Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	30-Nov-18		
1602571	CLEANAWAY PTY LTD	85-87 Quarry Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	18-Nov-20		
13378	NACE CIVIL ENGINEERING PTY. LIMITED	between Lenore Lane & Old Wallgrove Road, ERSKINE PARK, NSW 2759	POEO licence	Surrendered	11-Mar-11	Road Construction	ERSKINE PARK LINK ROAD ~1.2km NE, water course between site and licensee
1502223	NACE CIVIL ENGINEERING PTY. LIMITED	between Lenore Lane & Old Wallgrove Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	19-Oct-11		
1505253	NACE CIVIL ENGINEERING PTY. LIMITED	between Lenore Lane & Old Wallgrove Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	28-Mar-12		
1512329	NACE CIVIL ENGINEERING PTY. LIMITED	between Lenore Lane & Old Wallgrove Road, ERSKINE PARK, NSW 2759	Compliance Audit	Complete	21-Feb-13		
1521555	NACE CIVIL ENGINEERING PTY. LIMITED	between Lenore Lane & Old Wallgrove Road, ERSKINE PARK, NSW 2759	s.80 Surrender of a Licence	Issued	12-May-14		
20163	DHL Supply Chain (Australia) Pty Ltd	Building B1, 23-107 Erskine Park Road, ERSKINE PARK, NSW 2759	POEO licence	Issued	5-Sep-12	Chemical Storage	DHL Supply Chain ~1km NE, water course between site and licensee
5125	TYRECYCLE PTY LTD	CNR ERSKINE PARK ROAD & MAMRE RD, ERSKINE PARK, NSW 2759	POEO licence	Surrendered	31-Mar-00	Waste storage, Waste processing (non-thermal treatment)	~.5km NE, assumed south of intersection
1029570	TYRECYCLE PTY LTD	CNR ERSKINE PARK ROAD & MAMRE RD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	28-Jul-03		
1058419	TYRECYCLE PTY LTD	CNR ERSKINE PARK ROAD & MAMRE RD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	19-Dec-08		
1117299	TYRECYCLE PTY LTD	CNR ERSKINE PARK ROAD & MAMRE RD, ERSKINE PARK, NSW 2759	s.80 Surrender of a Licence	Issued	16-Jul-10		
6377	HOLCIM (AUSTRALIA) PTY LTD	MAMRE ROAD, ERSKINE PARK, NSW 2759	POEO licence	Surrendered	20-Mar-00	Concrete works	Unsure
1044812	HOLCIM (AUSTRALIA) PTY LTD	MAMRE ROAD, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	31-Mar-05		
1096553	HOLCIM (AUSTRALIA) PTY LTD	MAMRE ROAD, ERSKINE PARK, NSW 2759	s.80 Surrender of a Licence	Issued	7-Jan-09		
21401	TWENTIETH SUPER PACE NOMINEES PTY. LTD.	ROLLING STOCK OPERATED ON A LICENSED RAIL NETWORK, ERSKINE PARK, NSW 2759	POEO licence	Issued	5-Aug-20	Railway Activities - Rolling Stock Operations	Unsure
12495	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	POEO licence	Issued	9-Jun-06	Metallurgical activities	WESTERN SYDNEY SERVICE CENTRE - ~1km NE, water course between site and licensee
1088500	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	28-Jul-08		
1096862	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	17-Apr-09		
1501524	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	10-Oct-11		
1509341	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	24-Oct-12		
1536180	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	1-Feb-16		
1551518	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	s.58 Licence Variation	Issued	27-Apr-17		
1600240	BLUESCOPE STEEL LIMITED	Templar Road, ERSKINE PARK, NSW 2759	Compliance Audit	Complete	11-Sep-20		

Search results

Your search for:Suburb: KEMPS CREEK

Search Again
Refine Search

did not find any records in our database.

If a site does not appear on the record it may still be affected by contamination. For example:

- Contamination may be present but the site has not been regulated by the EPA under the Contaminated Land Management Act 1997 or the Environmentally Hazardous Chemicals Act 1985.
- The EPA may be regulating contamination at the site through a licence or notice under the Protection of the Environment Operations Act 1997 (POEO Act).
- Contamination at the site may be being managed under the planning process.

Search TIP

To search for a specific site, search by LGA (local government area) and carefully review all sites listed.

... more search tips

More information about particular sites may be available from:

- The POEO public register
- The appropriate planning authority: for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act.

See What's in the record and What's not in the record.

If you want to know whether a specific site has been the subject of notices issued by the EPA under the CLM Act, we suggest that you search by Local Government Area only and carefully review the sites that are listed.
This public record provides information about sites regulated by the EPA under the Contaminated Land Management Act 1997, including sites currently and previously regulated under the Environmentally Hazardous Chemicals Act 1985. Your inquiry using the above search criteria has not matched any record of current or former regulation. You should consider searching again using different criteria. The fact that a site does not appear on the record does not necessarily mean that it is not affected by contamination. The site may have been notified to the EPA but not yet assessed, or contamination may be present but the site is not yet being regulated by the EPA. Further information about particular sites may be available from the appropriate planning authority, for example, on a planning certificate issued by the local council under section 149 of the Environmental Planning and Assessment Act. In addition the EPA may be regulating contamination at the site through a licence under the Protection of the Environment Operations Act 1997. You may wish to search the POEO public register.POEO public register

31 March 2021

For business and industry

For local government

Contact us

131 555 (tel:131555)

Online (https://yoursay.epa.nsw.gov.au/epa-website-feedback)

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

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

Accessibility (https://www.epa.nsw.gov.au/about-us/contact-us/website-service-standards/help-index)
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Search results

Your search for:Suburb: ORCHARD HILLS

Search Again
Refine Search

did not find any records in our database.

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Search results

Your search for:Suburb: ERSKINE PARK

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Appendix G Heritage Records

Search for NSW heritage

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

Statutory listed items

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

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

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

Your search did not return any matching results.

Section 2. Items listed under the Heritage Act.

Your search did not return any matching results.

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

Your search returned 10 records.

Item name	Address	Suburb	LGA	Information source
Brick Farmhouse	80-88 Caddens Road	Orchard Hills	Penrith	LGOV
Canine Council Dwelling	391-395 Mamre Road	Orchard Hills	Penrith	LGOV
Leeholme Horse Stud Rotunda	391-395 Mamre Road	Orchard Hills	Penrith	LGOV
Lindfield - Homestead	182-188 Caddens Road	Orchard Hills	Penrith	LGOV
Mamre - Homestead	181-275 Mamre Road	Orchard Hills	Penrith	LGOV
Memorial Cairn	181-275 Mamre Road	Orchard Hills	Penrith	LGOV
Memorial Cairn	Luddenham Road	Orchard Hills	Penrith	LGOV
Orchard Hills Reservoir (WS 0083)	Castle Road	Orchard Hills	Penrith	SGOV
Orchard Hills Uniting Church	3 Frogmore	Orchard Hills	Penrith	LGOV
Water Reservoir	197-207 Castle Road	Orchard Hills	Penrith	LGOV

There was a total of 10 records matching your search criteria.

Key:

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.

Note: While Heritage NSW seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

Legend

- Approximate Site Boundary
- State Heritage Act
- Conservation Area - General
- Conservation Area - Aboriginal
- Conservation Area - Landscape
- Item - General
- Item - Aboriginal
- Item - Archaeological
- Item - Landscape

JBS&G

Job No: 60586

Client: Pells Sullivan Meynink

Version: HERITAGE	Date 31/03/2021
Drawn By: RH	Checked By: CB

Scale 1:10,000

0 130 260

metres

Coord. Sys. GDA 1994 MGA Zone 56

585-649 Mamre Road, Orchard Hills, NSW

HERITAGE

FIGURE HERITAGE

File Name: N:\Projects\Pells Sullivan Meynink\60586 Snack Brands Horizon ESA\GIS\Maps\PSI\Heritage.mxd
Reference: Nearmap (2020-06-24)

Search Results

1 result found.

Kemps Creek Natural Area Exeter Rd	Cecil Park, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)

Report Produced: Thu Apr 15 15:43:31 2021

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Search Results

2 results found.

Orchard Hills Cumberland Plain Woodland The Northern Rd	Orchard Hills, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Orchard Hills Cumberland Plain Woodland The Northern Rd	Orchard Hills, NSW, Australia	(Listed place) Commonwealth Heritage List

Report Produced: Wed Mar 31 08:29:35 2021

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Search Results

No results found.

Enter at least one search criterion.

Search Hints

Search Reset form

Place name

Street name

Town or suburb: Erskine Park

State: --All--

Country

Advanced search options

List: All Lists

Different lists will provide different status and class options

Local Government Area

Place ID number

Legal status: --All--

Class: --All--

Keyword Search

Description Statement of Significance Place history

Latitude/Longitude

N

Latitude 1

Longitude 1 S Longitude 2

W E Latitude 2 E E

S

Wholly within region

Wholly or partially within region

Longitude coordinates should be entered as ddd.mm.ss
Latitude coordinates should be entered as dd.mm.ss

Map Ref No

1:100,000 eg 2357
1:250,000 eg SF-50-01

Search Hints

- Not all fields need to be filled in. The fewer you fill in the more results you will get.
- If you cannot find a place, check spelling and try alternative names. Reduce the number of words that you include and use fewer fields.
- The Local Government field used on its own will provide a comprehensive list of places in an area.

Appendix H Laboratory Reports and Chain of Custody Documentation

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

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

Attention:	Chris Bielby
Report	783386-AID
Project Name	SNACK BRANDS HORIZON
Project ID	60586
Received Date	Mar 26, 2021
Date Reported	Apr 06, 2021

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.*

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Project Name SNACK BRANDS HORIZON
Project ID 60586
Date Sampled Mar 25, 2021
Report 783386-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH05-0.8-1	21-Ma50640	Mar 25, 2021	Approximate Sample 547g Sample consisted of: Brown coarse-grained soil shell fragments, and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
QA20210325-02	21-Ma50645	Mar 25, 2021	Approximate Sample 351g Sample consisted of: Brown coarse-grained soil shell fragments, 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	Mar 29, 2021	Indefinite

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
Report #: 783386
Phone: 02 8245 0300
Fax:

Received: Mar 26, 2021 4:40 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Moisture Set	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BH05-0.9-1	Mar 25, 2021		Soil	S21-Ma50639					X	X	
2	BH05-0.8-1	Mar 25, 2021		Soil	S21-Ma50640	X						
3	BH05-2.9-3	Mar 25, 2021		Soil	S21-Ma50641			X		X		
4	QA20210325-01	Mar 25, 2021		Soil	S21-Ma50642					X	X	
5	TS	Mar 25, 2021		Water	S21-Ma50643							X
6	TB	Mar 25, 2021		Water	S21-Ma50644				X			
7	QA20210325-02	Mar 25, 2021		Soil	S21-Ma50645	X						
8	BH05-0-0.1	Mar 25, 2021		Soil	S21-Ma50646		X					

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Mayfield Laboratory												
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12	BH05-4.9-5	Mar 25, 2021		Soil	S21-Ma50650		X					
13	BH05-6.9-7	Mar 25, 2021		Soil	S21-Ma50651		X					
14	BH05-1.9-2	Mar 25, 2021		Soil	S21-Ma50652		X					
15	BH05-5.9-6	Mar 25, 2021		Soil	S21-Ma50653		X					
Test Counts						2	8	1	1	3	2	1

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

Units

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

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

S21-Ma50645: 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.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

JBS & G Australia (NSW) P/L
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Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Chris Bielby**

Report **783386-S**
Project name SNACK BRANDS HORIZON
Project ID 60586
Received Date Mar 26, 2021

Client Sample ID			**BH05-0.9-1**	**BH05-2.9-3**	**QA20210325-01**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Ma50639**	**S21-Ma50641**	**S21-Ma50642**
Date Sampled			**Mar 25, 2021**	**Mar 25, 2021**	**Mar 25, 2021**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	-	< 20
TRH C10-C14	20	mg/kg	43	-	28
TRH C15-C28	50	mg/kg	130	-	100
TRH C29-C36	50	mg/kg	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	173	-	128
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	%	97	-	105
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	130	-	100
TRH >C34-C40	100	mg/kg	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	130	-	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			BH05-0.9-1	BH05-2.9-3	QA20210325-01
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50639	S21-Ma50641	S21-Ma50642
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
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	%	79	-	82
p-Terphenyl-d14 (surr.)	1	%	111	-	109
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	-	< 0.1
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	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	80	-	65
Tetrachloro-m-xylene (surr.)	1	%	102	-	101
Polychlorinated Biphenyls					
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	80	-	65
Tetrachloro-m-xylene (surr.)	1	%	102	-	101

Client Sample ID			BH05-0.9-1	BH05-2.9-3	QA20210325-01
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S21-Ma50639	S21-Ma50641	S21-Ma50642
Date Sampled			Mar 25, 2021	Mar 25, 2021	Mar 25, 2021
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	2	mg/kg	7.3	6.8	7.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	27	14
Copper	5	mg/kg	49	13	36
Lead	5	mg/kg	23	13	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	27	7.8	23
Zinc	5	mg/kg	110	18	120
% Moisture	1	%	11	17	9.1

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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
JBS&G Suite 2			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Mar 30, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Mar 30, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Mar 26, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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4	QA20210325-01	Mar 25, 2021		Soil	S21-Ma50642					X	X	
5	TS	Mar 25, 2021		Water	S21-Ma50643							X
6	TB	Mar 25, 2021		Water	S21-Ma50644				X			
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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
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	< 0.1			0.1	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							
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	%	73			70-130	Pass	
TRH C10-C14	%	87			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	100			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	113			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	122			70-130	Pass	
TRH C6-C10	%	79			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	84			70-130	Pass	
Acenaphthylene	%	79			70-130	Pass	
Anthracene	%	74			70-130	Pass	
Benz(a)anthracene	%	73			70-130	Pass	
Benzo(a)pyrene	%	76			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	97			70-130	Pass	
Benzo(g.h.i)perylene	%	75			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	71			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	74			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	84			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	77			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	90			70-130	Pass	
4.4'-DDD	%	100			70-130	Pass	
4.4'-DDE	%	82			70-130	Pass	
4.4'-DDT	%	117			70-130	Pass	
a-BHC	%	86			70-130	Pass	
Aldrin	%	74			70-130	Pass	
b-BHC	%	92			70-130	Pass	
d-BHC	%	81			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	72			70-130	Pass	
Endosulfan II	%	90			70-130	Pass	
Endosulfan sulphate	%	92			70-130	Pass	
Endrin	%	102			70-130	Pass	
Endrin aldehyde	%	104			70-130	Pass	
Endrin ketone	%	81			70-130	Pass	
g-BHC (Lindane)	%	80			70-130	Pass	
Heptachlor	%	98			70-130	Pass	
Heptachlor epoxide	%	104			70-130	Pass	
Hexachlorobenzene	%	88			70-130	Pass	
Methoxychlor	%	121			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	74			70-130	Pass	
Aroclor-1260	%	80			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	104			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	99			80-120	Pass	
Copper	%	99			80-120	Pass	
Lead	%	93			80-120	Pass	
Mercury	%	98			80-120	Pass	
Nickel	%	100			80-120	Pass	
Zinc	%	97			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S21-Ma52425	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S21-Ma52425	NCP	%	77			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	S21-Ma54907	NCP	%	87			70-130	Pass	
Acenaphthylene	S21-Ma54907	NCP	%	90			70-130	Pass	
Anthracene	S21-Ma54907	NCP	%	78			70-130	Pass	
Benz(a)anthracene	S21-Ma54907	NCP	%	80			70-130	Pass	
Benzo(a)pyrene	S21-Ma54907	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Ma54907	NCP	%	101			70-130	Pass	
Benzo(g.h.i)perylene	S21-Ma54907	NCP	%	102			70-130	Pass	
Benzo(k)fluoranthene	S21-Ma54907	NCP	%	92			70-130	Pass	
Chrysene	S21-Ma54907	NCP	%	80			70-130	Pass	
Dibenz(a.h)anthracene	S21-Ma54907	NCP	%	90			70-130	Pass	
Fluoranthene	S21-Ap01230	NCP	%	81			70-130	Pass	
Fluorene	S21-Ma54907	NCP	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma54907	NCP	%	94			70-130	Pass	
Naphthalene	S21-Ma54907	NCP	%	79			70-130	Pass	
Phenanthrene	S21-Ma54907	NCP	%	77			70-130	Pass	
Pyrene	S21-Ap01230	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Ma54907	NCP	%	81			70-130	Pass	
4.4'-DDD	S21-Ap01230	NCP	%	73			70-130	Pass	
4.4'-DDE	S21-Ma54907	NCP	%	73			70-130	Pass	
4.4'-DDT	S21-Ma54907	NCP	%	98			70-130	Pass	
a-BHC	S21-Ma54907	NCP	%	86			70-130	Pass	
Aldrin	S21-Ma54907	NCP	%	90			70-130	Pass	
b-BHC	S21-Ma54907	NCP	%	82			70-130	Pass	
d-BHC	S21-Ma54907	NCP	%	80			70-130	Pass	
Dieldrin	S21-Ma54907	NCP	%	74			70-130	Pass	
Endosulfan I	S21-Ma54907	NCP	%	74			70-130	Pass	
Endosulfan II	S21-Ma54907	NCP	%	74			70-130	Pass	
Endosulfan sulphate	S21-Ap01230	NCP	%	80			70-130	Pass	
Endrin	S21-Ma54907	NCP	%	93			70-130	Pass	
Endrin aldehyde	S21-Ap01230	NCP	%	97			70-130	Pass	
Endrin ketone	S21-Ap01230	NCP	%	75			70-130	Pass	
g-BHC (Lindane)	S21-Ma54907	NCP	%	86			70-130	Pass	
Heptachlor	S21-Ma54907	NCP	%	116			70-130	Pass	
Heptachlor epoxide	S21-Ma54907	NCP	%	74			70-130	Pass	
Hexachlorobenzene	S21-Ma54907	NCP	%	87			70-130	Pass	
Methoxychlor	S21-Ma54907	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-Ma54907	NCP	%	78			70-130	Pass	
Aroclor-1260	S21-Ap01524	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ma53522	NCP	%	113			75-125	Pass	
Cadmium	S21-Ma53522	NCP	%	108			75-125	Pass	
Chromium	S21-Ma53522	NCP	%	125			75-125	Pass	
Copper	S21-Ma53522	NCP	%	119			75-125	Pass	
Lead	S21-Ma53522	NCP	%	100			75-125	Pass	
Mercury	S21-Ma53522	NCP	%	111			75-125	Pass	
Nickel	S21-Ma55247	NCP	%	100			75-125	Pass	
Zinc	S21-Ma53522	NCP	%	104			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ma48504	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ma48504	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ma48504	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ma48504	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ma48504	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ma48504	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Ma50308	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Ma50308	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Ma50308	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S21-Ma50308	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Total PCB*	S21-Ma50308	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma53924	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S21-Ma53924	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma53924	NCP	mg/kg	700	900	24	30%	Pass	
Copper	S21-Ma53924	NCP	mg/kg	14	23	47	30%	Fail	Q15
Lead	S21-Ma53924	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	S21-Ma53924	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma53924	NCP	mg/kg	12	11	2.0	30%	Pass	
Zinc	S21-Ma53924	NCP	mg/kg	120	170	30	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma52424	NCP	%	23	23	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Chris Bielby**

Report **783386-W**
Project name SNACK BRANDS HORIZON
Project ID 60586
Received Date Mar 26, 2021

Client Sample ID			**TS**	**TB**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**S21-Ma50643**	**S21-Ma50644**
Date Sampled			**Mar 25, 2021**	**Mar 25, 2021**
Test/Reference	LOR	Unit		
BTEX				
Benzene	1	%	99	-
Ethylbenzene	1	%	95	-
m&p-Xylenes	1	%	100	-
o-Xylene	1	%	91	-
Toluene	1	%	110	-
Xylenes - Total	1	%	95	-
4-Bromofluorobenzene (surr.)	1	%	87	-
BTEX				
Benzene	0.001	mg/L	-	< 0.001
Toluene	0.001	mg/L	-	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	82

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
JBS&G Suite 2			
BTEX	Sydney	Mar 26, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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IANZ # 1327

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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: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
Report #: 783386
Phone: 02 8245 0300
Fax:

Received: Mar 26, 2021 4:40 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Moisture Set	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BH05-0.9-1	Mar 25, 2021		Soil	S21-Ma50639					X	X	
2	BH05-0.8-1	Mar 25, 2021		Soil	S21-Ma50640	X						
3	BH05-2.9-3	Mar 25, 2021		Soil	S21-Ma50641			X		X		
4	QA20210325-01	Mar 25, 2021		Soil	S21-Ma50642					X	X	
5	TS	Mar 25, 2021		Water	S21-Ma50643							X
6	TB	Mar 25, 2021		Water	S21-Ma50644				X			
7	QA20210325-02	Mar 25, 2021		Soil	S21-Ma50645	X						
8	BH05-0-0.1	Mar 25, 2021		Soil	S21-Ma50646		X					

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

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Company Name: JBS & G Australia (NSW) P/L
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Project Name: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
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Phone: 02 8245 0300
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Received: Mar 26, 2021 4:40 PM
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Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Metals M8	BTEX	Moisture Set	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
9	BH05-0.3-0.4	Mar 25, 2021		Soil	S21-Ma50647		X					
10	BH05-0-0.5	Mar 25, 2021		Soil	S21-Ma50648		X					
11	BH05-1.6-2	Mar 25, 2021		Soil	S21-Ma50649		X					
12	BH05-4.9-5	Mar 25, 2021		Soil	S21-Ma50650		X					
13	BH05-6.9-7	Mar 25, 2021		Soil	S21-Ma50651		X					
14	BH05-1.9-2	Mar 25, 2021		Soil	S21-Ma50652		X					
15	BH05-5.9-6	Mar 25, 2021		Soil	S21-Ma50653		X					
Test Counts						2	8	1	1	3	2	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							
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	
LCS - % Recovery							
BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	106			70-130	Pass	
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	98			70-130	Pass	
o-Xylene	%	99			70-130	Pass	
Xylenes - Total*	%	98			70-130	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

Authorised by:

Ursula Long — Analytical Services Manager

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Chris Bielby
Project name:	SNACK BRANDS HORIZON
Project ID:	60586
Turnaround time:	5 Day
Date/Time received	Mar 26, 2021 4:40 PM
Eurofins reference	783386

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 : 7.4 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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample BH05-5.9-6 (1x jar) received as extra and logged on hold.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Chris Bielby - cbielby@jbsg.com.au.

Global Leader - Results you can trust

Chain of Custody

JBS&G

PROJECT NO.: 60586

PROJECT NAME: Snack brands horizon

DATE NEEDED BY: Standard TAT

LABORATORY BATCH NO.:

SAMPLERS: ML

QC LEVEL: NEPM (2013)

PHONE: Sydney 02 8245 0300 | Perth 08 9488 0100 | Brisbane 07 3112 2688 | Melbourne 03 9642 0599 | Adelaide 08 8431 7113

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

#783386

NOTES: Please change job number on all samples to 60586

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JB2A	Heavy metals	PAH/BTEX	BTEX	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA
BH05-0-0.1	soil	25/3/21	-	Jar + Ice							
0.3-0.4				Jar + Ice		*					
0-0.5				~~Zip~~ Bag							
0.9-1				~~Bag~~ Jar + Ice		X					X
0.8-1				Bag 1							
1.6-2				~~Zip~~ Bag			X				
2.9-3				Jar + Ice							
4.9-5				Jar + Ice							
6.9-7				Jar + Ice							
1.9-2				Jar + Ice.							X
QAZ0210325-01				Jar + ~~Bag~~ Ice.		X			X		
TS/TB.	Water			Viles							X
QAZ0210325-02.				Bag							

RELINQUISHED BY:

NAME: M.linz DATE: 25-3-21

OF: JBS&G

METHOD OF SHIPMENT:

CONSIGNMENT NOTE NO.

TRANSPORT CO. Courier

RECEIVED BY:

NAME: MR

DATE: 26/3/21 4:40PM

OF: Eurofins

FOR RECEIVING LAB USE ONLY:

COOLER SEAL – Yes..... No ..... Intact ..... Broken .....

COOLER TEMP 7.4 deg C

Controlled Copy (June 2015)
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Re: Attention: Eurofins Sample Receipt Advice - Report 783386 : Site SNACK BRANDS HORIZON (60586)

Matthew Linz <mlinz@jbsg.com.au>

Mon 3/29/2021 3:57 PM

To: #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

Hey

- Cancel sub sample Asbestos for BHo5 0.9-1
- rename bag sample QA20210325-01 to QA20210325-02 and analyse per the COC no need for asbestos analysis of QA20210325-01

Get Outlook for iOS

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Friday, March 26, 2021 10:43 PM
To: Chris Bielby
Cc: Matthew Linz
Subject: Attention: Eurofins Sample Receipt Advice - Report 783386 : Site SNACK BRANDS HORIZON (60586)

[EXTERNAL EMAIL]** Stop and think before opening attachments, clicking or responding.

Dear Valued Client,

No asbestos bag received for sample BH05-0.9-1, subsampled from jar for asbestos AS4964 analysis. Sample QA20210325-02 not received, analysis cancelled. Sample BH05-5.9-6 (1x jar) received as extra and logged on hold.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Kind regards,
Mickael Ros
Sample Receipt

Eurofins | Environmental Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone: +61 02 9900 8421

Email: EnviroSampleNSW@eurofins.com
Website: [http:///]environment.eurofins.com.au

EnviroNote 1108 - Emissions from Stationary Sources
EnviroNote 1103 - NATA Accreditation for Dioxins

Click here to report this email as spam.

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Level 1, 50 Margaret St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Chris Bielby**

Report **783390-S**
Project name SNACK BRANDS HORIZON
Project ID 60586
Received Date Mar 26, 2021

Client Sample ID			**BH01-0.1-0.2**	**BH01-2-2.1**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S21-Ma50685**	**S21-Ma50686**
Date Sampled			**Mar 25, 2021**	**Mar 25, 2021**
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	81
TRH C15-C28	50	mg/kg	< 50	160
TRH C29-C36	50	mg/kg	< 50	63
TRH C10-C36 (Total)	50	mg/kg	< 50	309
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	0.3
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	0.4
4-Bromofluorobenzene (surr.)	1	%	110	111
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	73
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	79
TRH >C16-C34	100	mg/kg	< 100	180
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	269
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			BH01-0.1-0.2	BH01-2-2.1
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ma50685	S21-Ma50686
Date Sampled			Mar 25, 2021	Mar 25, 2021
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	%	103	92
p-Terphenyl-d14 (surr.)	1	%	98	87
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1
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	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	110	108
Tetrachloro-m-xylene (surr.)	1	%	122	99
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	110	108
Tetrachloro-m-xylene (surr.)	1	%	122	99

Client Sample ID			BH01-0.1-0.2	BH01-2-2.1
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S21-Ma50685**	**S21-Ma50686**
Date Sampled			**Mar 25, 2021**	**Mar 25, 2021**
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic	2	mg/kg	7.6	8.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	26	11
Copper	5	mg/kg	32	36
Lead	5	mg/kg	24	18
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	17	18
Zinc	5	mg/kg	77	83
% Moisture	1	%	10	6.9

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
JBS&G Suite 2			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 06, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Mar 30, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Mar 30, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Mar 30, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Mar 26, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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Address: Level 1, 50 Margaret St
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Project Name: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
Report #: 783390
Phone: 02 8245 0300
Fax:

Received: Mar 26, 2021 4:40 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Moisture Set	JBS&G Suite 2	JBS&G Suite 2A
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
Mayfield Laboratory										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	BH01-0.1-0.2	Mar 25, 2021		Soil	S21-Ma50685			X		X
2	BH01-2-2.1	Mar 25, 2021		Soil	S21-Ma50686			X	X	
3	BH01-0.5-0.6	Mar 25, 2021		Soil	S21-Ma50687		X			
4	BH01-0.5-1.0	Mar 25, 2021		Soil	S21-Ma50688		X			
5	BH01-0.9-1	Mar 25, 2021		Soil	S21-Ma50689		X			
6	BH01-2-2.2	Mar 25, 2021		Soil	S21-Ma50690	X				
7	BH01-2.4-2.5	Mar 25, 2021		Soil	S21-Ma50691		X			
8	BH01-2.9-3	Mar 25, 2021		Soil	S21-Ma50692		X			
9	BH01-3.5-3.6	Mar 25, 2021		Soil	S21-Ma50693		X			

eurofins | Environment Testing

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

Project Name: SNACK BRANDS HORIZON
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Order No.:
Report #: 783390
Phone: 02 8245 0300
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Received: Mar 26, 2021 4:40 PM
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Contact Name: Chris Bielby

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Sample Detail						Asbestos - WA guidelines	HOLD	Moisture Set	JBS&G Suite 2	JBS&G Suite 2A
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
Mayfield Laboratory										
External Laboratory										
10	BH01-5.4-5.5	Mar 25, 2021		Soil	S21-Ma50694		X			
11	BH01-8.9-9.0	Mar 25, 2021		Soil	S21-Ma50695		X			
Test Counts						1	8	2	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
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	< 0.1			0.1	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							
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	%	106			70-130	Pass	
TRH C10-C14	%	77			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	100			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	104			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	111			70-130	Pass	
TRH C6-C10	%	123			70-130	Pass	
TRH >C10-C16	%	82			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	84			70-130	Pass	
Acenaphthylene	%	87			70-130	Pass	
Anthracene	%	85			70-130	Pass	
Benz(a)anthracene	%	81			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	81			70-130	Pass	
Benzo(k)fluoranthene	%	94			70-130	Pass	
Chrysene	%	83			70-130	Pass	
Dibenz(a.h)anthracene	%	84			70-130	Pass	
Fluoranthene	%	81			70-130	Pass	
Fluorene	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	85			70-130	Pass	
Naphthalene	%	81			70-130	Pass	
Phenanthrene	%	85			70-130	Pass	
Pyrene	%	85			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	97			70-130	Pass	
4.4'-DDD	%	95			70-130	Pass	
4.4'-DDE	%	90			70-130	Pass	
4.4'-DDT	%	109			70-130	Pass	
a-BHC	%	97			70-130	Pass	
Aldrin	%	95			70-130	Pass	
b-BHC	%	90			70-130	Pass	
d-BHC	%	89			70-130	Pass	
Dieldrin	%	92			70-130	Pass	
Endosulfan I	%	94			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	94			70-130	Pass	
Endrin	%	111			70-130	Pass	
Endrin aldehyde	%	89			70-130	Pass	
Endrin ketone	%	105			70-130	Pass	
g-BHC (Lindane)	%	106			70-130	Pass	
Heptachlor	%	105			70-130	Pass	
Heptachlor epoxide	%	94			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	114			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	75			70-130	Pass	
Aroclor-1260	%	80			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	95			80-120	Pass	
Cadmium	%	90			80-120	Pass	
Chromium	%	93			80-120	Pass	
Copper	%	95			80-120	Pass	
Lead	%	93			80-120	Pass	
Mercury	%	100			80-120	Pass	
Nickel	%	92			80-120	Pass	
Zinc	%	87			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	S21-Ma50535	NCP	%	94			70-130	Pass	
TRH C10-C14	S21-Ma50166	NCP	%	127			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	S21-Ma50535	NCP	%	86			70-130	Pass	
Toluene	S21-Ma50535	NCP	%	98			70-130	Pass	
Ethylbenzene	S21-Ma50535	NCP	%	92			70-130	Pass	
m&p-Xylenes	S21-Ma50535	NCP	%	96			70-130	Pass	
o-Xylene	S21-Ma50535	NCP	%	97			70-130	Pass	
Xylenes - Total*	S21-Ma50535	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S21-Ma50535	NCP	%	89			70-130	Pass	
TRH C6-C10	S21-Ma50535	NCP	%	96			70-130	Pass	
TRH >C10-C16	S21-Ma50166	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Ma56968	NCP	%	93			70-130	Pass	
Acenaphthylene	S21-Ma56968	NCP	%	94			70-130	Pass	
Anthracene	S21-Ma56968	NCP	%	94			70-130	Pass	
Benz(a)anthracene	S21-Ma56968	NCP	%	88			70-130	Pass	
Benzo(a)pyrene	S21-Ma56968	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Ma56968	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	S21-Ma56968	NCP	%	92			70-130	Pass	
Benzo(k)fluoranthene	S21-Ma56968	NCP	%	105			70-130	Pass	
Chrysene	S21-Ma56968	NCP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	S21-Ma56968	NCP	%	92			70-130	Pass	
Fluoranthene	S21-Ma56968	NCP	%	91			70-130	Pass	
Fluorene	S21-Ma56968	NCP	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma56968	NCP	%	96			70-130	Pass	
Naphthalene	S21-Ma56968	NCP	%	91			70-130	Pass	
Phenanthrene	S21-Ma56968	NCP	%	96			70-130	Pass	
Pyrene	S21-Ma56968	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Ma50539	NCP	%	95			70-130	Pass	
4.4'-DDD	S21-Ma50539	NCP	%	89			70-130	Pass	
4.4'-DDE	S21-Ma50539	NCP	%	86			70-130	Pass	
4.4'-DDT	S21-Ma50539	NCP	%	104			70-130	Pass	
a-BHC	S21-Ma50539	NCP	%	94			70-130	Pass	
Aldrin	S21-Ma50539	NCP	%	90			70-130	Pass	
b-BHC	S21-Ma50539	NCP	%	81			70-130	Pass	
d-BHC	S21-Ma50539	NCP	%	84			70-130	Pass	
Dieldrin	S21-Ma50539	NCP	%	90			70-130	Pass	
Endosulfan I	S21-Ma50539	NCP	%	88			70-130	Pass	
Endosulfan II	S21-Ma50539	NCP	%	93			70-130	Pass	
Endosulfan sulphate	S21-Ma50539	NCP	%	87			70-130	Pass	
Endrin	S21-Ma50539	NCP	%	104			70-130	Pass	
Endrin aldehyde	S21-Ma50539	NCP	%	93			70-130	Pass	
Endrin ketone	S21-Ma50539	NCP	%	105			70-130	Pass	
g-BHC (Lindane)	S21-Ma50539	NCP	%	101			70-130	Pass	
Heptachlor	S21-Ma50539	NCP	%	93			70-130	Pass	
Heptachlor epoxide	S21-Ma50539	NCP	%	93			70-130	Pass	
Hexachlorobenzene	S21-Ma50539	NCP	%	92			70-130	Pass	
Methoxychlor	S21-Ma50539	NCP	%	114			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-Ma56968	NCP	%	76			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	S21-Ma56968	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ma49449	NCP	%	96			75-125	Pass	
Cadmium	S21-Ma49449	NCP	%	94			75-125	Pass	
Chromium	S21-Ma49449	NCP	%	99			75-125	Pass	
Copper	S21-Ma49449	NCP	%	98			75-125	Pass	
Lead	S21-Ma49449	NCP	%	120			75-125	Pass	
Mercury	S21-Ma49449	NCP	%	99			75-125	Pass	
Nickel	S21-Ma49449	NCP	%	94			75-125	Pass	
Zinc	S21-Ma49449	NCP	%	94			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma50532	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Ma50281	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ma50281	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ma50281	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma50532	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma50532	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma50532	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma50532	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma50532	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma50532	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ma50532	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ma50532	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Ma50281	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ma50281	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ma50281	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Ma50538	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Ma50538	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Ma50538	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Ma50538	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma55929	NCP	mg/kg	2.7	2.3	15	30%	Pass	
Cadmium	S21-Ma55929	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma55929	NCP	mg/kg	9.7	9.6	1.0	30%	Pass	
Copper	S21-Ma55929	NCP	mg/kg	8.7	11	20	30%	Pass	
Lead	S21-Ma55929	NCP	mg/kg	14	13	10	30%	Pass	
Mercury	S21-Ma55929	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma55929	NCP	mg/kg	7.3	5.8	23	30%	Pass	
Zinc	S21-Ma55929	NCP	mg/kg	39	27	36	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma52424	NCP	%	23	23	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

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Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

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

Attention:	Chris Bielby
Report	783390-AID
Project Name	SNACK BRANDS HORIZON
Project ID	60586
Received Date	Mar 26, 2021
Date Reported	Apr 06, 2021

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.*

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Project Name SNACK BRANDS HORIZON
Project ID 60586
Date Sampled Mar 25, 2021
Report 783390-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH01-0.1-0.2	21-Ma50685	Mar 25, 2021	Approximate Sample 736g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH01-2-2.2	21-Ma50690	Mar 25, 2021	Approximate Sample 464g Sample consisted of: Brown fine-grained clayey soil, shell fragments 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 06, 2021	Indefinite

eurofins | Environment Testing

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Address: Level 1, 50 Margaret St
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NSW 2000

Project Name: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
Report #: 783390
Phone: 02 8245 0300
Fax:

Received: Mar 26, 2021 4:40 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Moisture Set	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	BH01-0.1-0.2	Mar 25, 2021		Soil	S21-Ma50685	X		X	X
2	BH01-2-2.1	Mar 25, 2021		Soil	S21-Ma50686			X	X
3	BH01-0.5-0.6	Mar 25, 2021		Soil	S21-Ma50687		X		
4	BH01-0.5-1.0	Mar 25, 2021		Soil	S21-Ma50688		X		
5	BH01-0.9-1	Mar 25, 2021		Soil	S21-Ma50689		X		
6	BH01-2-2.2	Mar 25, 2021		Soil	S21-Ma50690	X			
7	BH01-2.4-2.5	Mar 25, 2021		Soil	S21-Ma50691		X		
8	BH01-2.9-3	Mar 25, 2021		Soil	S21-Ma50692		X		
9	BH01-3.5-3.6	Mar 25, 2021		Soil	S21-Ma50693		X		

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

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PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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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: SNACK BRANDS HORIZON
Project ID: 60586

Order No.:
Report #: 783390
Phone: 02 8245 0300
Fax:

Received: Mar 26, 2021 4:40 PM
Due: Apr 6, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Moisture Set	JBS&G Suite 2
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory									
External Laboratory									
10	BH01-5.4-5.5	Mar 25, 2021		Soil	S21-Ma50694		X		
11	BH01-8.9-9.0	Mar 25, 2021		Soil	S21-Ma50695		X		
Test Counts						2	8	2	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

S21-Ma50690: 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.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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IANZ # 1327

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

Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Chris Bielby
Project name:	SNACK BRANDS HORIZON
Project ID:	60586
Turnaround time:	5 Day
Date/Time received	Mar 26, 2021 4:40 PM
Eurofins reference	783390

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 : 7.4 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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Chris Bielby - cbielby@jbsg.com.au.

Chain of Custody

JBS&G

PROJECT NO.: 60586	LABORATORY BATCH NO.:
PROJECT NAME: Snack brands horizon	SAMPLERS: ML
DATE NEEDED BY:	QC LEVEL: NEPM (2013)

PHONE: Sydney 02 8245 0300 | Perth 08 9488 0100 | Brisbane 07 3112 2688 | Melbourne 03 9642 0599 | Adelaide 08 8431 7113

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

#783390

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JBZA.	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH01 – 0.1-0.2	soil	25/3/21	-	Jar + Bag + Ice		X			Please change job number on all samples to 60586
0.5-0.6				Jar + Ice					
0.5-1.0				Bag					
0.9-1				Jar + Ice					
2-2.1				Jar + Ice		X			
2-2.2				Bag					
2.4-2.5				Jar + Ice					
2.9-3				Jar					
3.5-3.6				Jar					
5.4-5.5				Jar					
8.9-9.0				Jar.					

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: M.linz DATE: 25-3-21	CONSIGNMENT NOTE NO. courier	NAME: MK	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 26/3/21 4:40 PM	COOLER TEMP 7.4 deg C
		OF: Eurofins	

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Re: Eurofins Sample Receipt Advice - Report 783390 : Site SNACK BRANDS HORIZON (60586)

Matthew Linz <mlinz@jbsg.com.au>
Mon 3/29/2021 4:00 PM
To: #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

Hey

Cancel sub sampling of 2-2.1 for asbestos instead sample asbestos bag BH01 2-2.2 for NEPM/wa

Get Outlook for iOS

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Friday, March 26, 2021 10:44 PM
To: Chris Bielby
Cc: Matthew Linz
Subject: Eurofins Sample Receipt Advice - Report 783390 : Site SNACK BRANDS HORIZON (60586)

[EXTERNAL EMAIL] Stop and think before opening attachments, clicking or responding.

Dear Valued Client,

No asbestos bag received for sample BH01-2-2.1, subsampled from jar for asbestos AS4964 analysis.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Kind regards,
Mickael Ros
Sample Receipt

Eurofins | Environmental Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone: +61 02 9900 8421
Email: EnviroSampleNSW@eurofins.com
Website: [http:///]environment.eurofins.com.au

EnviroNote 1108 - Emissions from Stationary Sources

EnviroNote 1103 - NATA Accreditation for Dioxins

Click here to report this email as spam.

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Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Chris Bielby**

Report **785817-S**
Project name PSM - MAMRE RD
Project ID 60586
Received Date Apr 07, 2021

Client Sample ID			**BH9-0.5-0.6**	**BH10-1-1.0**	**BH11-1.5-1.6**	**BH12-0.6-0.7**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Ap10965**	**S21-Ap10967**	**S21-Ap10970**	**S21-Ap10971**
Date Sampled			**Apr 01, 2021**	**Apr 01, 2021**	**Apr 01, 2021**	**Apr 01, 2021**
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-C36 (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	%	69	63	98	85
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
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	< 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
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

Client Sample ID			BH9-0.5-0.6	BH10-1-1.0	BH11-1.5-1.6	BH12-0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap10965	S21-Ap10967	S21-Ap10970	S21-Ap10971
Date Sampled			Apr 01, 2021	Apr 01, 2021	Apr 01, 2021	Apr 01, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	87	91	82	82
p-Terphenyl-d14 (surr.)	1	%	96	96	107	94
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	120	95	106	109
Tetrachloro-m-xylene (surr.)	1	%	73	69	74	75
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	120	95	106	109
Tetrachloro-m-xylene (surr.)	1	%	73	69	74	75

Client Sample ID			BH9-0.5-0.6	BH10-1-1.0	BH11-1.5-1.6	BH12-0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap10965	S21-Ap10967	S21-Ap10970	S21-Ap10971
Date Sampled			Apr 01, 2021	Apr 01, 2021	Apr 01, 2021	Apr 01, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	11	8.6	11	7.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	12	44	9.3
Copper	5	mg/kg	30	37	11	34
Lead	5	mg/kg	24	26	29	33
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.3	27	8.1	14
Zinc	5	mg/kg	35	85	19	70
% Moisture	1	%	14	4.9	14	6.5

Client Sample ID			BH7-0.5-0.6	BH8-1.5-1.6	BH2-0-0.1	BH3-1-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap10976	S21-Ap10979	S21-Ap10981	S21-Ap10983
Date Sampled			Apr 06, 2021	Apr 06, 2021	Apr 06, 2021	Apr 06, 2021
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	57	68	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	57	68	< 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	%	100	96	103	111
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
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	< 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			BH7-0.5-0.6	BH8-1.5-1.6	BH2-0-0.1	BH3-1-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap10976	S21-Ap10979	S21-Ap10981	S21-Ap10983
Date Sampled			Apr 06, 2021	Apr 06, 2021	Apr 06, 2021	Apr 06, 2021
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	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	76	74	85	77
p-Terphenyl-d14 (surr.)	1	%	85	85	104	102
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	0.14	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	0.14	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	115	132	115	130
Tetrachloro-m-xylene (surr.)	1	%	71	72	76	71
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH7-0.5-0.6	BH8-1.5-1.6	BH2-0-0.1	BH3-1-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap10976	S21-Ap10979	S21-Ap10981	S21-Ap10983
Date Sampled			Apr 06, 2021	Apr 06, 2021	Apr 06, 2021	Apr 06, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	115	132	115	130
Tetrachloro-m-xylene (surr.)	1	%	71	72	76	71
Heavy Metals						
Arsenic	2	mg/kg	10	12	3.9	6.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	16	18	14
Copper	5	mg/kg	31	33	15	22
Lead	5	mg/kg	21	25	18	21
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	20	21	8.6	10
Zinc	5	mg/kg	78	84	38	40
% Moisture	1	%	8.4	6.9	5.3	11

Client Sample ID			BH4-1-1.1
Sample Matrix			Soil
Eurofins Sample No.			S21-Ap10986
Date Sampled			Apr 06, 2021
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	%	113
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

Client Sample ID			BH4-1-1.1
Sample Matrix			Soil
Eurofins Sample No.			S21-Ap10986
Date Sampled			Apr 06, 2021
Test/Reference	LOR	Unit	
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	%	72
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
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2
Toxaphene	0.1	mg/kg	< 0.1
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	%	111
Tetrachloro-m-xylene (surr.)	1	%	66

Client Sample ID			BH4-1-1.1
Sample Matrix			**Soil**
Eurofins Sample No.			**S21-Ap10986**
Date Sampled			**Apr 06, 2021**
Test/Reference	LOR	Unit	
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	%	111
Tetrachloro-m-xylene (surr.)	1	%	66
Heavy Metals			
Arsenic	2	mg/kg	6.0
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	15
Copper	5	mg/kg	26
Lead	5	mg/kg	20
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	15
Zinc	5	mg/kg	73
% Moisture	1	%	11

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Apr 13, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 13, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 13, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 13, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 13, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Apr 13, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Apr 13, 2021	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Apr 13, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Apr 08, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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

Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BH9-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10965				X		X	
2	BH9-0-1.0	Apr 01, 2021		Soil	S21-Ap10966	X						
3	BH10-1-1.0	Apr 01, 2021		Soil	S21-Ap10967				X		X	
4	BH10-0-1.0	Apr 01, 2021		Soil	S21-Ap10968	X						
5	BH11-0-1.0	Apr 01, 2021		Soil	S21-Ap10969	X						
6	BH11-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10970				X		X	
7	BH12-0.6-0.7	Apr 01, 2021		Soil	S21-Ap10971				X		X	
8	BH12-0-1.0	Apr 01, 2021		Soil	S21-Ap10972	X						
9	RINSATE	Apr 01, 2021		Water	S21-Ap10973					X		

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
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Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
10	TB	Apr 01, 2021		Water	S21-Ap10974			X				
11	TS	Apr 01, 2021		Water	S21-Ap10975							X
12	BH7-0.5-0.6	Apr 06, 2021		Soil	S21-Ap10976				X		X	
13	BH7-0-1.0	Apr 06, 2021		Soil	S21-Ap10977	X						
14	BH8-0-1.0	Apr 06, 2021		Soil	S21-Ap10978	X						
15	BH8-1.5-1.6	Apr 06, 2021		Soil	S21-Ap10979				X		X	
16	BH8-1-2.0	Apr 06, 2021		Soil	S21-Ap10980	X						
17	BH2-0-0.1	Apr 06, 2021		Soil	S21-Ap10981				X		X	
18	BH2-0-1.0	Apr 06, 2021		Soil	S21-Ap10982	X						
19	BH3-1-1.1	Apr 06, 2021		Soil	S21-Ap10983				X		X	
20	BH3-0-1	Apr 06, 2021		Soil	S21-Ap10984	X						

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
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Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
21	BH4-0-1	Apr 06, 2021		Soil	S21-Ap10985	X						
22	BH4-1-1.1	Apr 06, 2021		Soil	S21-Ap10986				X		X	
23	TB	Apr 06, 2021		Water	S21-Ap10987			X				
24	TS	Apr 06, 2021		Water	S21-Ap10988							X
25	RINSATE	Apr 06, 2021		Water	S21-Ap10989					X		
26	BH9-1-1.1	Apr 01, 2021		Soil	S21-Ap10990		X					
27	BH9-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10991		X					
28	BH9-2.4-2.5	Apr 01, 2021		Soil	S21-Ap10992		X					
29	BH9-3.4-3.5	Apr 01, 2021		Soil	S21-Ap10993		X					
30	BH9-4.5-4.6	Apr 01, 2021		Soil	S21-Ap10994		X					
31	BH9-5.5-5.6	Apr 01, 2021		Soil	S21-Ap10995		X					

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Project Name: PSM - MAMRE RD
Project ID: 60586

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Phone: 02 8245 0300
Fax:

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Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
32	BH10-0-0.1	Apr 01, 2021		Soil	S21-Ap10996		X					
33	BH10-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10997		X					
34	BH10-1.9-2.0	Apr 01, 2021		Soil	S21-Ap10998		X					
35	BH10-2.5-2.6	Apr 01, 2021		Soil	S21-Ap10999		X					
36	BH10-3.5-3.6	Apr 01, 2021		Soil	S21-Ap11000		X					
37	BH10-5.9-6.0	Apr 01, 2021		Soil	S21-Ap11001		X					
38	BH11-0-0.1	Apr 01, 2021		Soil	S21-Ap11002		X					
39	BH11-0.5-0.6	Apr 01, 2021		Soil	S21-Ap11003		X					
40	BH11-1-1.1	Apr 01, 2021		Soil	S21-Ap11004		X					
41	BH11-2-2.1	Apr 01, 2021		Soil	S21-Ap11005		X					
42	BH11-3-3.1	Apr 01, 2021		Soil	S21-Ap11006		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
43	BH11-4-4.1	Apr 01, 2021		Soil	S21-Ap11007		X					
44	BH12-0-0.1	Apr 01, 2021		Soil	S21-Ap11008		X					
45	BH12-1.1-1.2	Apr 01, 2021		Soil	S21-Ap11009		X					
46	BH12-1.7-1.8	Apr 01, 2021		Soil	S21-Ap11010		X					
47	BH12-2.8-2.9	Apr 01, 2021		Soil	S21-Ap11011		X					
48	BH12-3.8-3.9	Apr 01, 2021		Soil	S21-Ap11012		X					
49	BH12-4.8-4.9	Apr 01, 2021		Soil	S21-Ap11013		X					
50	BH12-5.9-6	Apr 01, 2021		Soil	S21-Ap11014		X					
51	QA01	Apr 01, 2021		Soil	S21-Ap11015		X					
52	QC01	Apr 01, 2021		Soil	S21-Ap11016		X					
53	BH7-0-0.1	Apr 06, 2021		Soil	S21-Ap11017		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
54	BH7-1-1.1	Apr 06, 2021		Soil	S21-Ap11018		X					
55	BH7-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11019		X					
56	BH7-2-2.1	Apr 06, 2021		Soil	S21-Ap11020		X					
57	BH7-3-3.1	Apr 06, 2021		Soil	S21-Ap11021		X					
58	BH7-4-4.1	Apr 06, 2021		Soil	S21-Ap11022		X					
59	BH7-5-5.1	Apr 06, 2021		Soil	S21-Ap11023		X					
60	BH8-0-0.1	Apr 06, 2021		Soil	S21-Ap11024		X					
61	BH8-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11025		X					
62	BH8-1-1.1	Apr 06, 2021		Soil	S21-Ap11026		X					
63	BH8-2-2.1	Apr 06, 2021		Soil	S21-Ap11027		X					
64	BH8-3-3.1	Apr 06, 2021		Soil	S21-Ap11028		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
65	BH8-4-4.1	Apr 06, 2021		Soil	S21-Ap11029		X					
66	BH2-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11030		X					
67	BH2-1-1.1	Apr 06, 2021		Soil	S21-Ap11031		X					
68	BH2-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11032		X					
69	BH2-2-2.1	Apr 06, 2021		Soil	S21-Ap11033		X					
70	BH2-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11034		X					
71	BH2-3.5-3.6	Apr 06, 2021		Soil	S21-Ap11035		X					
72	BH2-4.5-4.6	Apr 06, 2021		Soil	S21-Ap11036		X					
73	BH2-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11037		X					
74	BH3-0-0.1	Apr 06, 2021		Soil	S21-Ap11038		X					
75	BH3-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11039		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
76	BH3-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11040		X					
77	BH3-1.1-2.1	Apr 06, 2021		Soil	S21-Ap11041		X					
78	BH3-2-2.1	Apr 06, 2021		Soil	S21-Ap11042		X					
79	BH3-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11043		X					
80	BH3-3-3.1	Apr 06, 2021		Soil	S21-Ap11044		X					
81	BH3-4-4.1	Apr 06, 2021		Soil	S21-Ap11045		X					
82	BH3-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11046		X					
83	BH4-0-0.1	Apr 06, 2021		Soil	S21-Ap11047		X					
84	BH4-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11048		X					
85	BH4-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11049		X					
86	BH4-1-2	Apr 06, 2021		Soil	S21-Ap11050		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
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Mayfield Laboratory												
External Laboratory												
87	BH4-2-2.1	Apr 06, 2021		Soil	S21-Ap11051		X					
88	BH4-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11052		X					
89	BH4-3-3.1	Apr 06, 2021		Soil	S21-Ap11053		X					
90	BH4-4-4.1	Apr 06, 2021		Soil	S21-Ap11054		X					
91	BH4-5-5.1	Apr 06, 2021		Soil	S21-Ap11055		X					
92	BH10-1.5-1.6	Apr 01, 2021		Soil	S21-Ap11056		X					
Test Counts						10	67	2	9	2	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	
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	< 0.1			0.1	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							
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	%	89			70-130	Pass	
TRH C10-C14	%	90			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	95			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	109			70-130	Pass	
o-Xylene	%	111			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	96			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	105			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	79			70-130	Pass	
Chrysene	%	99			70-130	Pass	
Dibenz(a.h)anthracene	%	81			70-130	Pass	
Fluoranthene	%	94			70-130	Pass	
Fluorene	%	101			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	97			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	99			70-130	Pass	
4.4'-DDD	%	71			70-130	Pass	
4.4'-DDE	%	101			70-130	Pass	
4.4'-DDT	%	97			70-130	Pass	
a-BHC	%	108			70-130	Pass	
Aldrin	%	105			70-130	Pass	
b-BHC	%	108			70-130	Pass	
d-BHC	%	114			70-130	Pass	
Dieldrin	%	86			70-130	Pass	
Endosulfan I	%	90			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endrin	%	91			70-130	Pass	
Endrin aldehyde	%	74			70-130	Pass	
Endrin ketone	%	79			70-130	Pass	
g-BHC (Lindane)	%	124			70-130	Pass	
Heptachlor	%	88			70-130	Pass	
Heptachlor epoxide	%	74			70-130	Pass	
Hexachlorobenzene	%	118			70-130	Pass	
Methoxychlor	%	70			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	109			70-130	Pass	
Aroclor-1260	%	115			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	85			80-120	Pass	
Cadmium	%	98			80-120	Pass	
Chromium	%	92			80-120	Pass	
Copper	%	92			80-120	Pass	
Lead	%	97			80-120	Pass	
Mercury	%	88			80-120	Pass	
Nickel	%	94			80-120	Pass	
Zinc	%	97			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	B21-Ap12509	NCP	%	110			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B21-Ap12509	NCP	%	110			70-130	Pass	
Toluene	B21-Ap12509	NCP	%	120			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	B21-Ap12509	NCP	%	130			70-130	Pass	
m&p-Xylenes	S21-Ap11382	NCP	%	109			70-130	Pass	
o-Xylene	S21-Ap11382	NCP	%	110			70-130	Pass	
Xylenes - Total*	S21-Ap11382	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	B21-Ap12509	NCP	%	125			70-130	Pass	
TRH C6-C10	B21-Ap12509	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S21-Ap06083	NCP	%	113			70-130	Pass	
Acenaphthylene	S21-Ap06083	NCP	%	121			70-130	Pass	
Anthracene	S21-Ap06083	NCP	%	95			70-130	Pass	
Benz(a)anthracene	S21-Ap06083	NCP	%	95			70-130	Pass	
Benzo(a)pyrene	S21-Ap06083	NCP	%	71			70-130	Pass	
Benzo(b&j)fluoranthene	S21-Ap06083	NCP	%	76			70-130	Pass	
Benzo(k)fluoranthene	S21-Ap06083	NCP	%	76			70-130	Pass	
Chrysene	S21-Ap06083	NCP	%	106			70-130	Pass	
Fluoranthene	S21-Ap06083	NCP	%	92			70-130	Pass	
Fluorene	S21-Ap06083	NCP	%	104			70-130	Pass	
Naphthalene	S21-Ap06083	NCP	%	109			70-130	Pass	
Phenanthrene	S21-Ap06083	NCP	%	98			70-130	Pass	
Pyrene	S21-Ap06083	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Ap06083	NCP	%	85			70-130	Pass	
4.4'-DDD	S21-Ap06083	NCP	%	74			70-130	Pass	
4.4'-DDE	S21-Ap06083	NCP	%	87			70-130	Pass	
4.4'-DDT	S21-Ap06083	NCP	%	106			70-130	Pass	
a-BHC	S21-Ap06083	NCP	%	86			70-130	Pass	
Aldrin	S21-Ap06083	NCP	%	90			70-130	Pass	
b-BHC	S21-Ap06083	NCP	%	85			70-130	Pass	
d-BHC	S21-Ap06083	NCP	%	90			70-130	Pass	
Dieldrin	S21-Ap06083	NCP	%	92			70-130	Pass	
Endosulfan I	S21-Ap06083	NCP	%	85			70-130	Pass	
Endosulfan II	S21-Ap06083	NCP	%	81			70-130	Pass	
Endrin	S21-Ap06083	NCP	%	106			70-130	Pass	
Endrin aldehyde	S21-Ap06083	NCP	%	71			70-130	Pass	
Endrin ketone	S21-Ap06083	NCP	%	75			70-130	Pass	
g-BHC (Lindane)	S21-Ap06083	NCP	%	100			70-130	Pass	
Heptachlor	S21-Ap06083	NCP	%	83			70-130	Pass	
Heptachlor epoxide	S21-Ap06083	NCP	%	73			70-130	Pass	
Hexachlorobenzene	S21-Ap06083	NCP	%	96			70-130	Pass	
Methoxychlor	S21-Ap06083	NCP	%	76			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S21-Ap06083	NCP	%	91			70-130	Pass	
Aroclor-1260	S21-Ap06083	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ap08682	NCP	%	83			75-125	Pass	
Cadmium	S21-Ap08682	NCP	%	103			75-125	Pass	
Chromium	S21-Ap08682	NCP	%	98			75-125	Pass	
Copper	S21-Ap08682	NCP	%	93			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	S21-Ap08682	NCP	%	87			75-125	Pass	
Mercury	S21-Ap08682	NCP	%	107			75-125	Pass	
Nickel	S21-Ap08682	NCP	%	94			75-125	Pass	
Zinc	S21-Ap08682	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S21-Ap10967	CP	%	112			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S21-Ap10967	CP	%	105			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	S21-Ap10965	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Ap10965	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ap10965	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Ap10965	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ap10965	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ap10965	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ap10965	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ap10965	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ap10965	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ap10965	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Ap10965	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Ap10965	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ap10965	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ap10965	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S21-Ap10965	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S21-Ap10965	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S21-Ap10965	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S21-Ap10965	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S21-Ap06084	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S21-Ap06084	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ap08691	NCP	mg/kg	7.0	4.9	36	30%	Fail	Q15
Cadmium	S21-Ap08691	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ap08691	NCP	mg/kg	32	27	17	30%	Pass	
Copper	S21-Ap15887	NCP	mg/kg	7.3	6.4	14	30%	Pass	
Lead	S21-Ap08691	NCP	mg/kg	23	17	32	30%	Fail	Q15
Mercury	S21-Ap08691	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ap15887	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S21-Ap08691	NCP	mg/kg	48	43	10	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ap10970	CP	%	14	13	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S21-Ap10976	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ap10976	CP	mg/kg	57	< 50	46	30%	Fail	Q15
TRH C29-C36	S21-Ap10976	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S21-Ap10976	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Ap10976	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Ap10976	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

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Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
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JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Chris Bielby
Report	785817-AID
Project Name	PSM - MAMRE RD
Project ID	60586
Received Date	Apr 07, 2021
Date Reported	Apr 15, 2021

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.*

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Project Name PSM - MAMRE RD
Project ID 60586
Date Sampled Apr 01, 2021 to Apr 06, 2021
Report 785817-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH9-0-1.0	21-Ap10966	Apr 01, 2021	Approximate Sample 595g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH10-0-1.0	21-Ap10968	Apr 01, 2021	Approximate Sample 723g Sample consisted of: Brown coarse-grained soil, shell fragments and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH11-0-1.0	21-Ap10969	Apr 01, 2021	Approximate Sample 493g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH12-0-1.0	21-Ap10972	Apr 01, 2021	Approximate Sample 414g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH7-0-1.0	21-Ap10977	Apr 06, 2021	Approximate Sample 854g Sample consisted of: Brown fine-grained clayey soil, shell fragments and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH8-0-1.0	21-Ap10978	Apr 06, 2021	Approximate Sample 421g Sample consisted of: Brown fine-grained clayey soil, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH8-1-2.0	21-Ap10980	Apr 06, 2021	Approximate Sample 889g Sample consisted of: Brown coarse-grained soil, shell fragments and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH2-0-1.0	21-Ap10982	Apr 06, 2021	Approximate Sample 426g Sample consisted of: Brown fine-grained clayey soil, brick, cement and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

NATA Accredited
Accreditation Number 1261
Site Number 18217

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Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH3-0-1	21-Ap10984	Apr 06, 2021	Approximate Sample 698g Sample consisted of: Brown fine-grained clayey soil, brick, cement, bitumen and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH4-0-1	21-Ap10985	Apr 06, 2021	Approximate Sample 812g Sample consisted of: Brown fine-grained clayey soil, bitumen 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 is reported.

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 08, 2021	Indefinite

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Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BH9-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10965				X		X	
2	BH9-0-1.0	Apr 01, 2021		Soil	S21-Ap10966	X						
3	BH10-1-1.0	Apr 01, 2021		Soil	S21-Ap10967				X		X	
4	BH10-0-1.0	Apr 01, 2021		Soil	S21-Ap10968	X						
5	BH11-0-1.0	Apr 01, 2021		Soil	S21-Ap10969	X						
6	BH11-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10970				X		X	
7	BH12-0.6-0.7	Apr 01, 2021		Soil	S21-Ap10971				X		X	
8	BH12-0-1.0	Apr 01, 2021		Soil	S21-Ap10972	X						
9	RINSATE	Apr 01, 2021		Water	S21-Ap10973					X		

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
10	TB	Apr 01, 2021		Water	S21-Ap10974			X				
11	TS	Apr 01, 2021		Water	S21-Ap10975							X
12	BH7-0.5-0.6	Apr 06, 2021		Soil	S21-Ap10976				X		X	
13	BH7-0-1.0	Apr 06, 2021		Soil	S21-Ap10977	X						
14	BH8-0-1.0	Apr 06, 2021		Soil	S21-Ap10978	X						
15	BH8-1.5-1.6	Apr 06, 2021		Soil	S21-Ap10979				X		X	
16	BH8-1-2.0	Apr 06, 2021		Soil	S21-Ap10980	X						
17	BH2-0-0.1	Apr 06, 2021		Soil	S21-Ap10981				X		X	
18	BH2-0-1.0	Apr 06, 2021		Soil	S21-Ap10982	X						
19	BH3-1-1.1	Apr 06, 2021		Soil	S21-Ap10983				X		X	
20	BH3-0-1	Apr 06, 2021		Soil	S21-Ap10984	X						

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
21	BH4-0-1	Apr 06, 2021		Soil	S21-Ap10985	X						
22	BH4-1-1.1	Apr 06, 2021		Soil	S21-Ap10986				X		X	
23	TB	Apr 06, 2021		Water	S21-Ap10987			X				
24	TS	Apr 06, 2021		Water	S21-Ap10988							X
25	RINSATE	Apr 06, 2021		Water	S21-Ap10989					X		
26	BH9-1-1.1	Apr 01, 2021		Soil	S21-Ap10990		X					
27	BH9-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10991		X					
28	BH9-2.4-2.5	Apr 01, 2021		Soil	S21-Ap10992		X					
29	BH9-3.4-3.5	Apr 01, 2021		Soil	S21-Ap10993		X					
30	BH9-4.5-4.6	Apr 01, 2021		Soil	S21-Ap10994		X					
31	BH9-5.5-5.6	Apr 01, 2021		Soil	S21-Ap10995		X					

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
32	BH10-0-0.1	Apr 01, 2021		Soil	S21-Ap10996		X					
33	BH10-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10997		X					
34	BH10-1.9-2.0	Apr 01, 2021		Soil	S21-Ap10998		X					
35	BH10-2.5-2.6	Apr 01, 2021		Soil	S21-Ap10999		X					
36	BH10-3.5-3.6	Apr 01, 2021		Soil	S21-Ap11000		X					
37	BH10-5.9-6.0	Apr 01, 2021		Soil	S21-Ap11001		X					
38	BH11-0-0.1	Apr 01, 2021		Soil	S21-Ap11002		X					
39	BH11-0.5-0.6	Apr 01, 2021		Soil	S21-Ap11003		X					
40	BH11-1-1.1	Apr 01, 2021		Soil	S21-Ap11004		X					
41	BH11-2-2.1	Apr 01, 2021		Soil	S21-Ap11005		X					
42	BH11-3-3.1	Apr 01, 2021		Soil	S21-Ap11006		X					

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
43	BH11-4-4.1	Apr 01, 2021		Soil	S21-Ap11007		X					
44	BH12-0-0.1	Apr 01, 2021		Soil	S21-Ap11008		X					
45	BH12-1.1-1.2	Apr 01, 2021		Soil	S21-Ap11009		X					
46	BH12-1.7-1.8	Apr 01, 2021		Soil	S21-Ap11010		X					
47	BH12-2.8-2.9	Apr 01, 2021		Soil	S21-Ap11011		X					
48	BH12-3.8-3.9	Apr 01, 2021		Soil	S21-Ap11012		X					
49	BH12-4.8-4.9	Apr 01, 2021		Soil	S21-Ap11013		X					
50	BH12-5.9-6	Apr 01, 2021		Soil	S21-Ap11014		X					
51	QA01	Apr 01, 2021		Soil	S21-Ap11015		X					
52	QC01	Apr 01, 2021		Soil	S21-Ap11016		X					
53	BH7-0-0.1	Apr 06, 2021		Soil	S21-Ap11017		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
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Mayfield Laboratory												
External Laboratory												
54	BH7-1-1.1	Apr 06, 2021		Soil	S21-Ap11018		X					
55	BH7-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11019		X					
56	BH7-2-2.1	Apr 06, 2021		Soil	S21-Ap11020		X					
57	BH7-3-3.1	Apr 06, 2021		Soil	S21-Ap11021		X					
58	BH7-4-4.1	Apr 06, 2021		Soil	S21-Ap11022		X					
59	BH7-5-5.1	Apr 06, 2021		Soil	S21-Ap11023		X					
60	BH8-0-0.1	Apr 06, 2021		Soil	S21-Ap11024		X					
61	BH8-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11025		X					
62	BH8-1-1.1	Apr 06, 2021		Soil	S21-Ap11026		X					
63	BH8-2-2.1	Apr 06, 2021		Soil	S21-Ap11027		X					
64	BH8-3-3.1	Apr 06, 2021		Soil	S21-Ap11028		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
65	BH8-4-4.1	Apr 06, 2021		Soil	S21-Ap11029		X					
66	BH2-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11030		X					
67	BH2-1-1.1	Apr 06, 2021		Soil	S21-Ap11031		X					
68	BH2-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11032		X					
69	BH2-2-2.1	Apr 06, 2021		Soil	S21-Ap11033		X					
70	BH2-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11034		X					
71	BH2-3.5-3.6	Apr 06, 2021		Soil	S21-Ap11035		X					
72	BH2-4.5-4.6	Apr 06, 2021		Soil	S21-Ap11036		X					
73	BH2-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11037		X					
74	BH3-0-0.1	Apr 06, 2021		Soil	S21-Ap11038		X					
75	BH3-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11039		X					

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

Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
76	BH3-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11040		X					
77	BH3-1.1-2.1	Apr 06, 2021		Soil	S21-Ap11041		X					
78	BH3-2-2.1	Apr 06, 2021		Soil	S21-Ap11042		X					
79	BH3-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11043		X					
80	BH3-3-3.1	Apr 06, 2021		Soil	S21-Ap11044		X					
81	BH3-4-4.1	Apr 06, 2021		Soil	S21-Ap11045		X					
82	BH3-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11046		X					
83	BH4-0-0.1	Apr 06, 2021		Soil	S21-Ap11047		X					
84	BH4-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11048		X					
85	BH4-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11049		X					
86	BH4-1-2	Apr 06, 2021		Soil	S21-Ap11050		X					

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Contact Name: Chris Bielby

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Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
87	BH4-2-2.1	Apr 06, 2021		Soil	S21-Ap11051		X					
88	BH4-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11052		X					
89	BH4-3-3.1	Apr 06, 2021		Soil	S21-Ap11053		X					
90	BH4-4-4.1	Apr 06, 2021		Soil	S21-Ap11054		X					
91	BH4-5-5.1	Apr 06, 2021		Soil	S21-Ap11055		X					
92	BH10-1.5-1.6	Apr 01, 2021		Soil	S21-Ap11056		X					
Test Counts						10	67	2	9	2	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

Ap10972, Ap10978, Ap10982: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
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NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Attention: **Chris Bielby**

Report **785817-W**
Project name PSM - MAMRE RD
Project ID 60586
Received Date Apr 07, 2021

Client Sample ID			**RINSATE**	**TB**	**TS**	**TB**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S21-Ap10973**	**S21-Ap10974**	**S21-Ap10975**	**S21-Ap10987**
Date Sampled			**Apr 01, 2021**	**Apr 01, 2021**	**Apr 01, 2021**	**Apr 06, 2021**
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-C36 (Total)	0.1	mg/L	< 0.1	-	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	-	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	-	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	81	79	-	80
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			RINSATE	TB	TS	TB
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S21-Ap10973	S21-Ap10974	S21-Ap10975	S21-Ap10987
Date Sampled			Apr 01, 2021	Apr 01, 2021	Apr 01, 2021	Apr 06, 2021
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	%	76	-	-	-
p-Terphenyl-d14 (surr.)	1	%	76	-	-	-
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	-	-	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	-	-	-
Copper (filtered)	0.001	mg/L	< 0.001	-	-	-
Lead (filtered)	0.001	mg/L	< 0.001	-	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-	-	-
Nickel (filtered)	0.001	mg/L	< 0.001	-	-	-
Zinc (filtered)	0.005	mg/L	< 0.005	-	-	-
BTEX						
Benzene	1	%	-	-	91	-
Ethylbenzene	1	%	-	-	88	-
m&p-Xylenes	1	%	-	-	95	-
o-Xylene	1	%	-	-	86	-
Toluene	1	%	-	-	91	-
Xylenes - Total	1	%	-	-	89	-
4-Bromofluorobenzene (surr.)	1	%	-	-	81	-

Client Sample ID			TS	RINSATE
Sample Matrix			Water	Water
Eurofins Sample No.			S21-Ap10988	S21-Ap10989
Date Sampled			Apr 06, 2021	Apr 06, 2021
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-C36 (Total)	0.1	mg/L	-	< 0.1
BTEX				
Benzene	0.001	mg/L	-	< 0.001
Toluene	0.001	mg/L	-	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	76

Client Sample ID			TS	RINSATE
Sample Matrix			Water	Water
Eurofins Sample No.			S21-Ap10988	S21-Ap10989
Date Sampled			Apr 06, 2021	Apr 06, 2021
Test/Reference	LOR	Unit		
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
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	%	-	85
p-Terphenyl-d14 (surr.)	1	%	-	58
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	-	< 0.001
Cadmium (filtered)	0.0002	mg/L	-	< 0.0002
Chromium (filtered)	0.001	mg/L	-	< 0.001
Copper (filtered)	0.001	mg/L	-	< 0.001
Lead (filtered)	0.001	mg/L	-	< 0.001
Mercury (filtered)	0.0001	mg/L	-	< 0.0001
Nickel (filtered)	0.001	mg/L	-	< 0.001
Zinc (filtered)	0.005	mg/L	-	< 0.005
BTEX				
Benzene	1	%	100	-
Ethylbenzene	1	%	100	-
m&p-Xylenes	1	%	110	-
o-Xylene	1	%	99	-
Toluene	1	%	110	-
Xylenes - Total	1	%	100	-
4-Bromofluorobenzene (surr.)	1	%	82	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Apr 08, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 08, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 08, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 08, 2021	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 08, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Sydney	Apr 08, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
1	BH9-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10965				X		X	
2	BH9-0-1.0	Apr 01, 2021		Soil	S21-Ap10966	X						
3	BH10-1-1.0	Apr 01, 2021		Soil	S21-Ap10967				X		X	
4	BH10-0-1.0	Apr 01, 2021		Soil	S21-Ap10968	X						
5	BH11-0-1.0	Apr 01, 2021		Soil	S21-Ap10969	X						
6	BH11-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10970				X		X	
7	BH12-0.6-0.7	Apr 01, 2021		Soil	S21-Ap10971				X		X	
8	BH12-0-1.0	Apr 01, 2021		Soil	S21-Ap10972	X						
9	RINSATE	Apr 01, 2021		Water	S21-Ap10973					X		

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Sample Detail						Asbestos - WA guidelines	HOLD	BTEX	Moisture Set	Eurofins Suite B7 (filtered metals)	JBS&G Suite 2	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
10	TB	Apr 01, 2021		Water	S21-Ap10974			X				
11	TS	Apr 01, 2021		Water	S21-Ap10975							X
12	BH7-0.5-0.6	Apr 06, 2021		Soil	S21-Ap10976				X		X	
13	BH7-0-1.0	Apr 06, 2021		Soil	S21-Ap10977	X						
14	BH8-0-1.0	Apr 06, 2021		Soil	S21-Ap10978	X						
15	BH8-1.5-1.6	Apr 06, 2021		Soil	S21-Ap10979				X		X	
16	BH8-1-2.0	Apr 06, 2021		Soil	S21-Ap10980	X						
17	BH2-0-0.1	Apr 06, 2021		Soil	S21-Ap10981				X		X	
18	BH2-0-1.0	Apr 06, 2021		Soil	S21-Ap10982	X						
19	BH3-1-1.1	Apr 06, 2021		Soil	S21-Ap10983				X		X	
20	BH3-0-1	Apr 06, 2021		Soil	S21-Ap10984	X						

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Project Name: PSM - MAMRE RD
Project ID: 60586

Order No.:
Report #: 785817
Phone: 02 8245 0300
Fax:

Received: Apr 7, 2021 4:50 PM
Due: Apr 14, 2021
Priority: 5 Day
Contact Name: Chris Bielby

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
21	BH4-0-1	Apr 06, 2021		Soil	S21-Ap10985	X						
22	BH4-1-1.1	Apr 06, 2021		Soil	S21-Ap10986				X		X	
23	TB	Apr 06, 2021		Water	S21-Ap10987			X				
24	TS	Apr 06, 2021		Water	S21-Ap10988							X
25	RINSATE	Apr 06, 2021		Water	S21-Ap10989					X		
26	BH9-1-1.1	Apr 01, 2021		Soil	S21-Ap10990		X					
27	BH9-1.5-1.6	Apr 01, 2021		Soil	S21-Ap10991		X					
28	BH9-2.4-2.5	Apr 01, 2021		Soil	S21-Ap10992		X					
29	BH9-3.4-3.5	Apr 01, 2021		Soil	S21-Ap10993		X					
30	BH9-4.5-4.6	Apr 01, 2021		Soil	S21-Ap10994		X					
31	BH9-5.5-5.6	Apr 01, 2021		Soil	S21-Ap10995		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
32	BH10-0-0.1	Apr 01, 2021		Soil	S21-Ap10996		X					
33	BH10-0.5-0.6	Apr 01, 2021		Soil	S21-Ap10997		X					
34	BH10-1.9-2.0	Apr 01, 2021		Soil	S21-Ap10998		X					
35	BH10-2.5-2.6	Apr 01, 2021		Soil	S21-Ap10999		X					
36	BH10-3.5-3.6	Apr 01, 2021		Soil	S21-Ap11000		X					
37	BH10-5.9-6.0	Apr 01, 2021		Soil	S21-Ap11001		X					
38	BH11-0-0.1	Apr 01, 2021		Soil	S21-Ap11002		X					
39	BH11-0.5-0.6	Apr 01, 2021		Soil	S21-Ap11003		X					
40	BH11-1-1.1	Apr 01, 2021		Soil	S21-Ap11004		X					
41	BH11-2-2.1	Apr 01, 2021		Soil	S21-Ap11005		X					
42	BH11-3-3.1	Apr 01, 2021		Soil	S21-Ap11006		X					

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Melbourne Laboratory - NATA Site # 1254 & 14271												
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
43	BH11-4-4.1	Apr 01, 2021		Soil	S21-Ap11007		X					
44	BH12-0-0.1	Apr 01, 2021		Soil	S21-Ap11008		X					
45	BH12-1.1-1.2	Apr 01, 2021		Soil	S21-Ap11009		X					
46	BH12-1.7-1.8	Apr 01, 2021		Soil	S21-Ap11010		X					
47	BH12-2.8-2.9	Apr 01, 2021		Soil	S21-Ap11011		X					
48	BH12-3.8-3.9	Apr 01, 2021		Soil	S21-Ap11012		X					
49	BH12-4.8-4.9	Apr 01, 2021		Soil	S21-Ap11013		X					
50	BH12-5.9-6	Apr 01, 2021		Soil	S21-Ap11014		X					
51	QA01	Apr 01, 2021		Soil	S21-Ap11015		X					
52	QC01	Apr 01, 2021		Soil	S21-Ap11016		X					
53	BH7-0-0.1	Apr 06, 2021		Soil	S21-Ap11017		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
54	BH7-1-1.1	Apr 06, 2021		Soil	S21-Ap11018		X					
55	BH7-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11019		X					
56	BH7-2-2.1	Apr 06, 2021		Soil	S21-Ap11020		X					
57	BH7-3-3.1	Apr 06, 2021		Soil	S21-Ap11021		X					
58	BH7-4-4.1	Apr 06, 2021		Soil	S21-Ap11022		X					
59	BH7-5-5.1	Apr 06, 2021		Soil	S21-Ap11023		X					
60	BH8-0-0.1	Apr 06, 2021		Soil	S21-Ap11024		X					
61	BH8-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11025		X					
62	BH8-1-1.1	Apr 06, 2021		Soil	S21-Ap11026		X					
63	BH8-2-2.1	Apr 06, 2021		Soil	S21-Ap11027		X					
64	BH8-3-3.1	Apr 06, 2021		Soil	S21-Ap11028		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
65	BH8-4-4.1	Apr 06, 2021		Soil	S21-Ap11029		X					
66	BH2-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11030		X					
67	BH2-1-1.1	Apr 06, 2021		Soil	S21-Ap11031		X					
68	BH2-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11032		X					
69	BH2-2-2.1	Apr 06, 2021		Soil	S21-Ap11033		X					
70	BH2-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11034		X					
71	BH2-3.5-3.6	Apr 06, 2021		Soil	S21-Ap11035		X					
72	BH2-4.5-4.6	Apr 06, 2021		Soil	S21-Ap11036		X					
73	BH2-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11037		X					
74	BH3-0-0.1	Apr 06, 2021		Soil	S21-Ap11038		X					
75	BH3-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11039		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory												
External Laboratory												
76	BH3-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11040		X					
77	BH3-1.1-2.1	Apr 06, 2021		Soil	S21-Ap11041		X					
78	BH3-2-2.1	Apr 06, 2021		Soil	S21-Ap11042		X					
79	BH3-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11043		X					
80	BH3-3-3.1	Apr 06, 2021		Soil	S21-Ap11044		X					
81	BH3-4-4.1	Apr 06, 2021		Soil	S21-Ap11045		X					
82	BH3-5.5-5.6	Apr 06, 2021		Soil	S21-Ap11046		X					
83	BH4-0-0.1	Apr 06, 2021		Soil	S21-Ap11047		X					
84	BH4-0.5-0.6	Apr 06, 2021		Soil	S21-Ap11048		X					
85	BH4-1.5-1.6	Apr 06, 2021		Soil	S21-Ap11049		X					
86	BH4-1-2	Apr 06, 2021		Soil	S21-Ap11050		X					

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794												
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Mayfield Laboratory												
External Laboratory												
87	BH4-2-2.1	Apr 06, 2021		Soil	S21-Ap11051		X					
88	BH4-2.5-2.6	Apr 06, 2021		Soil	S21-Ap11052		X					
89	BH4-3-3.1	Apr 06, 2021		Soil	S21-Ap11053		X					
90	BH4-4-4.1	Apr 06, 2021		Soil	S21-Ap11054		X					
91	BH4-5-5.1	Apr 06, 2021		Soil	S21-Ap11055		X					
92	BH10-1.5-1.6	Apr 01, 2021		Soil	S21-Ap11056		X					
Test Counts						10	67	2	9	2	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/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	99			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	95			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	93			70-130	Pass	
Toluene	%	96			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
o-Xylene	%	94			70-130	Pass	
Xylenes - Total*	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	87			70-130	Pass	
TRH C6-C10	%	101			70-130	Pass	
TRH >C10-C16	%	91			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	102			70-130	Pass	
Acenaphthylene	%	113			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	111			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	104			70-130	Pass	
Benzo(g.h.i)perylene	%	110			70-130	Pass	
Benzo(k)fluoranthene	%	105			70-130	Pass	
Chrysene	%	103			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	98			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	102			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	92			80-120	Pass	
Cadmium (filtered)	%	95			80-120	Pass	
Chromium (filtered)	%	93			80-120	Pass	
Copper (filtered)	%	92			80-120	Pass	
Lead (filtered)	%	97			80-120	Pass	
Mercury (filtered)	%	107			80-120	Pass	
Nickel (filtered)	%	92			80-120	Pass	
Zinc (filtered)	%	98			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	S21-Ap08568	NCP	%	117			70-130	Pass	
TRH C10-C14	S21-Ap08568	NCP	%	90			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Ap08568	NCP	%	123			70-130	Pass	
Toluene	S21-Ap08568	NCP	%	114			70-130	Pass	
Ethylbenzene	S21-Ap08568	NCP	%	111			70-130	Pass	
m&p-Xylenes	S21-Ap08568	NCP	%	90			70-130	Pass	
o-Xylene	S21-Ap08568	NCP	%	107			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	S21-Ap08568	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S21-Ap08568	NCP	%	94			70-130	Pass	
TRH C6-C10	S21-Ap08568	NCP	%	117			70-130	Pass	
TRH >C10-C16	S21-Ap08568	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S21-Ap08926	NCP	%	88			75-125	Pass	
Cadmium (filtered)	S21-Ap08926	NCP	%	90			75-125	Pass	
Chromium (filtered)	S21-Ap08926	NCP	%	86			75-125	Pass	
Copper (filtered)	S21-Ap08926	NCP	%	83			75-125	Pass	
Lead (filtered)	S21-Ap08926	NCP	%	88			75-125	Pass	
Mercury (filtered)	S21-Ap08926	NCP	%	95			75-125	Pass	
Nickel (filtered)	S21-Ap08926	NCP	%	83			75-125	Pass	
Zinc (filtered)	S21-Ap08926	NCP	%	89			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ap12058	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S21-Ma56894	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S21-Ma56894	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S21-Ma56894	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ap12058	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S21-Ap12058	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S21-Ap12058	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S21-Ap12058	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S21-Ap12058	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S21-Ap12058	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S21-Ap12058	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S21-Ap12058	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	S21-Ma56894	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S21-Ma56894	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S21-Ma56894	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S21-Ap10973	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S21-Ap10973	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S21-Ap10973	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S21-Ap10973	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S21-Ap10973	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S21-Ap10973	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S21-Ap10973	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	S21-Ap10973	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised by:

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	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.

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eurofins | Environment Testing

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IANZ # 1327

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

Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Chris Bielby
Project name:	PSM - MAMRE RD
Project ID:	60586
Turnaround time:	5 Day
Date/Time received	Apr 7, 2021 4:50 PM
Eurofins reference	785817

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 : 12.2 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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Chris Bielby - cbielby@jbsg.com.au.

Global Leader - Results you can trust

04991

CHAIN OF CUSTODY

1 of 5

JBS&G

PROJECT NO.: 60586
PROJECT NAME: PSM, Mamre Rd
SEND REPORT TO: CBirlbeck@jbsg.com.au SEND INVOICE TO:
DATE NEEDED BY: Standard

LABORATORY BATCH NO.:
SAMPLERS: MS
PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL:
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

785817

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JB2	Asbestos QC
BH9-0.5-0.6	Soil	1/4/21		Jar + bag + ice		x	
BH9-1-1.1							
BH9-0-1.0				bag only			x
BH9-1.5-1.6				Jar + bag + ice			
BH9-2.4-2.5				Jar only + ice			
BH9-3.4-3.5							
BH9-4.5-4.6							
BH9-5.5-5.6							
BH10-0-0.1				Jar + bag + ice			
BH10-0.5-0.6							
BH10-1-1.1				Jar only + ice		x	
BH10-0-1.0				bag only			x
BH10-1.5-1.6				Jar + bag + ice			
BH10-1.9-2.0				Jar only + ice			
BH10-2.5-2.6							
BH10-3.5-3.6							
BH10-5.9-6.0							
BH11-0-0.1				Jar + bag + ice			
BH11-0.5-0.6				Jar only + ice			

NOTES:

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Mackenzie Stacey DATE: 1/4/21	CONSIGNMENT NOTE NO. Courier	NAME: MR DATE: 7/4/21 4:50PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Eurofins	COOLER TEMP 12.2 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

04992

CHAIN OF CUSTODY

2 of 5

JBS&G

PROJECT NO.: 60586
PROJECT NAME: PSM Marine Rd
SEND REPORT TO: CBielby@jbsg.com.au SEND INVOICE TO:
DATE NEEDED BY:

LABORATORY BATCH NO.:
SAMPLERS: MS
PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL:
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

785 817

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JB2	Asbestos 500mL	BTEX	Heavy metals	PAH	TRH BTEX	NOTES:
BH11-0-1.0	soil	1/4/21		bag only			X					
BH11-1-1.1				Jar + bag + ice								
BH11-1.5-1.6				↓		X						
BH11-2-2.1				Jar only + ice								
BH11-3-3.1				↓								
BH11-4-4.1												
BH12-0-0.1				Jar + bag + ice								
BH12-0.6-0.7				Jar + bag + ice		X						
BH12-0-1.0				bag only			X					
BH12-1.1-1.2				Jar + bag + ice								
BH12-1.7-1.8				Jar only + ice								
BH12-2.8-2.9												
BH12-3.8-3.9				↓								
BH12-4.8-4.9												
BH12-5.9-6	↓											
Rinsate	water			2 vials, 1 metal, 1 amber				X	X	X		
Trip spike/blank	water							X				
~~QA01~~	~~soil~~			~~Jar + bag + ice~~								
QA01 / QC01	soil			Jar + bag) x 2								* do not analyze

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Mackenzie Stacey DATE: 1/4/21	CONSIGNMENT NOTE NO. Courier	NAME: MR DATE: 7/4/21 4:50PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Eurofins	COOLER TEMP 12.7 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

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3 of 5

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 60586
PROJECT NAME: PSM, Mamre Rd
SEND REPORT TO: C Bielby@jbsg.com.au SEND INVOICE TO:
DATE NEEDED BY:

LABORATORY BATCH NO.:
SAMPLERS:
PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL:
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JB2	Asbestos ID		NOTES:
BH7-0-0.1	soil	6/4/21		Jar + bag + ice					785817
BH7-0.5-0.6				↓		X			
BH7-1-1.1				bag only					
BH7-0-1.0				Jar + bag + ice			X		
BH7-1.5-1.6				jar only + ice					
BH7-2-2.1				↓					
BH7-3-3.1									
BH7-4-4.1									
BH7-5-5.1									
BH8-0-0.1				jar + bag + ice					
BH8-0.5-0.6				↓					
BH8-0-1.0				bag only			X		
BH8-1-1.1				jar + bag + ice					
BH8-1.5-1.6				↓		X			
BH8-1-2.0				bag only					
BH8-2-2.1				jar only + ice			X		
BH8-3-3.1				↓					
BH8-4-4.1									
BH2-0-0.1	↓			jar + bag + ice		X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Mackenzie Stacey DATE:	CONSIGNMENT NOTE NO.	NAME: MR DATE: 7/4/21 4:50PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO. Courier	OF: Eurofins	COOLER TEMP 12.2 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

04994

CHAIN OF CUSTODY

4 of 5

JBS&G

PROJECT NO.: 60586
PROJECT NAME: PSM, Mamre Rd
SEND REPORT TO: CBielby@jbsg.com.au SEND INVOICE TO:
DATE NEEDED BY:

LABORATORY BATCH NO.:
SAMPLERS: MS
PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL:
QC LEVEL: NEPM (2013)

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

785 817

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JBS Asbestos 4/1/21	NOTES:
BH2 -0.5-0.6	soil	6/4/21		jar only +ice			
BH2 -1-1.1				jar + bag +ice			
BH2 - 0-1.0				bag only		X	
BH2 -1.5-1.6				jar + bag +ice			
BH2 - 2-2.1				jar only +ice			
BH2- 2.5-2.6				jar + bag +ice			
BH2- 3.5-3.6				jar only +ice			
BH2 - 4.5-4.6				↓			
BH2- 5.5-5.6							
BH3- 0-0.1				jar + bag +ice			
BH3- 0.5-0.6				jar only +ice			
BH3- 1-1.1				jar + bag +ice		X	
BH3- 0-0				bag only		X	
BH3- 1.5-1.6				jar + bag +ice			
BH3- 1.1-2.1				bag only		*	
BH3- 2-2.1				jar + bag +ice			
BH3 - 2.5-2.6				↓			
BH3- 3-3.1				jar only +ice			
BH3 - 4-4.1				↓			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Mackenzie Stacey DATE: 6/4/21	CONSIGNMENT NOTE NO.	NAME: MR DATE: 7/4/21 4:50PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO. Courier	OF: Eurofins	COOLER TEMP 12.2 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

04995

CHAIN OF CUSTODY

5 of 5

JBS&G

PROJECT NO.: 60586	LABORATORY BATCH NO.:
PROJECT NAME: PSM, Marrickville Rd	SAMPLERS: MS
SEND REPORT TO: CBielby@jbsg.com.au SEND INVOICE TO:	PHONE: SYDNEY 02 8245 0300 – PERTH 08 9488 0100 EMAIL:
DATE NEEDED BY:	QC LEVEL: NEPM (2013)
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:	785817

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	JBZ	Asbestos 500mL	BTEX	Heavy metals	PAHs	TRH-BTEX	NOTES:
BH3-5.5-5.6	soil	6/4/21		jar only +ice								
BH4-0-0.1				jar+bag +ice								
BH4-0.5-0.6				↓								
BH4-0-1				bag only			X					
BH4-1-1.1				jar+bag +ice		X						
BH4-1.5-1.6				↓								
BH4-1-2				bag only								
BH4-2-2.1				jar+bag +ice								
BH4-2.5-2.6				↓								
BH4-3-3.1				jar only +ice								
BH4-4-4.1				↓								
BH4-5-5.1				↓								
Trip spike/blank	water			2 vials				X				
Rinsate	water			2 vial 1 metal, amber					X	X	X	

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Mackenzie Stacey DATE: 6/4/21	CONSIGNMENT NOTE NO. Courier	NAME: MR DATE: 7/4/21 4:50PM	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF: Eurofins	COOLER TEMP 2.7 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
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customerservice@envirolab.com.au
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CERTIFICATE OF ANALYSIS 265279

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	Chris Bielby, M Linz
Address	Level 1, 50 Margaret St, Sydney, NSW, 2000

Sample Details

Your Reference	**60586, Snack brands horizon**
Number of Samples	1 Soil
Date samples received	26/03/2021
Date completed instructions received	26/03/2021

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	06/04/2021
Date of Issue	01/04/2021

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Nyovan Moonean
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Dragana Tomas, Senior Chemist
Ken Nguyen, Reporting Supervisor
Lucy Zhu, Asbestos Supervisor
Manju Dewendrage, Chemist
Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date extracted	-	29/03/2021
Date analysed	-	30/03/2021
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	%	93

svTRH (C10-C40) in Soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date extracted	-	29/03/2021
Date analysed	-	29/03/2021
TRH C_{10} - C_{14}	mg/kg	77
TRH C_{15} - C_{28}	mg/kg	190
TRH C_{29} - C_{36}	mg/kg	<100
TRH >C_{10} -C_{16}	mg/kg	99
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	99
TRH >C_{16} -C_{34}	mg/kg	200
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	300
Surrogate o-Terphenyl	%	104

PAHs in Soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date extracted	-	29/03/2021
Date analysed	-	31/03/2021
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	0.1
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	0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	93

Organochlorine Pesticides in soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date extracted	-	29/03/2021
Date analysed	-	31/03/2021
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	%	99

PCBs in Soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date extracted	-	29/03/2021
Date analysed	-	31/03/2021
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	%	99

Acid Extractable metals in soil		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date prepared	-	29/03/2021
Date analysed	-	29/03/2021
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	5
Copper	mg/kg	34
Lead	mg/kg	15
Mercury	mg/kg	<0.1
Nickel	mg/kg	19
Zinc	mg/kg	96

Moisture		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date prepared	-	29/03/2021
Date analysed	-	30/03/2021
Moisture	%	5.4

Asbestos ID - soils NEPM - ASB-001		
Our Reference		265279-1
Your Reference	UNITS	QC20210325-01
Date Sampled		25/03/2021
Type of sample		Soil
Date analysed	-	29/03/2021
Sample mass tested	g	490.6
Sample Description	-	Brown coarse-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-2	[NT]
Date extracted	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			30/03/2021	[NT]	[NT]	[NT]	[NT]	30/03/2021	[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]	118	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	115	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	112	[NT]
naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	91	[NT]	[NT]	[NT]	[NT]	100	[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	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	123	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	87	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	104	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	123	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	87	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	104	[NT]
Surrogate o-Terphenyl	%		Org-020	83	[NT]	[NT]	[NT]	[NT]	125	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			31/03/2021	[NT]	[NT]	[NT]	[NT]	31/03/2021	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[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]	116	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	121	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	111	[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]	109	[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]	112	[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]	117	[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	99	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			31/03/2021	[NT]	[NT]	[NT]	[NT]	31/03/2021	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[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]	119	[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]	107	[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]	119	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[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]	111	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	117	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	113	[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]	103	[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]	133	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date extracted	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			31/03/2021	[NT]	[NT]	[NT]	[NT]	31/03/2021	[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]	100	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	105	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date prepared	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Date analysed	-			29/03/2021	[NT]	[NT]	[NT]	[NT]	29/03/2021	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	89	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	88	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[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.

Note: Sample analysed as received. However, sample is below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

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	Chris Bielby, M Linz

Sample Login Details

Your reference	60586, Snack brands horizon
Envirolab Reference	265279
Date Sample Received	26/03/2021
Date Instructions Received	26/03/2021
Date Results Expected to be Reported	06/04/2021

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
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
QC20210325-01	✓	✓	✓	✓	✓	✓	✓

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.
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.

Chain of Custody

JBS&G

PROJECT NO.: 60586

PROJECT NAME: Snack brands horizon

DATE NEEDED BY: Standard TAT

LABORATORY BATCH NO.:

SAMPLERS: ML

QC LEVEL: NEPM (2013)

PHONE: Sydney 02 8245 0300 | Perth 08 9488 0100 | Brisbane 07 3112 2688 | Melbourne 03 9642 0599 | Adelaide 08 8431 7113

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	SA	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
QC20210325-01 ①	soil	25/3/21	-	Jar + Bag + Ice.		X			Please change job number on all samples to 60586
NR ② QC20210325-02.	Soil	"	-	Bag				X	

ENVIROLAB
12 Ashley
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 265279

Date Received: 26/3/2021

Time Received: 1540

Received By: [illegible]

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

RELINQUISHED BY:

NAME: M.linz DATE: 25-3-21

OF: JBS&G

METHOD OF SHIPMENT:

CONSIGNMENT NOTE NO.

TRANSPORT CO.

RECEIVED BY:

NAME: [illegible]

DATE: 26/3/2021 1540

OF:

FOR RECEIVING LAB USE ONLY:

COOLER SEAL – Yes..... No ..... Intact ..... Broken .....

COOLER TEMP ..... deg C

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Appendix I QA/QC Results

INSERT QAQC TABLE NAME
Project Number: 60586
Project Name: Mamre Road ESA

Field Duplicates (SOIL)
Filter: ALL

			SDG	783386	783386		783386	783386		783386	ENVIROLAB	
			Field ID	BH05-0.9-1	QA20210325-01	**RPD**	BH05-0.8-1	QA20210325-02	**RPD**	BH05-0.9-1	QC20210325-01	**RPD**
			Sampled Date/Time	25/03/2021	25/03/2021		25/03/2021	25/03/2021		25/03/2021	25/03/2021	
Chem_Grou	**ChemName**	**Units**	**EQL**									
Metals & M	Arsenic	mg/kg	2 : 4 (Interlab)	7.3	7	4				**7.3**	**<4**	**58**
	Cadmium	mg/kg	0.4	<0.4	<0.4	0				<0.4	<0.4	0
	Chromium (	mg/kg	5 : 1 (Interlab)	14	14	0				**14**	**5**	**95**
	Copper	mg/kg	5 : 1 (Interlab)	**49**	**36**	**31**				**49**	**34**	**36**
	Lead	mg/kg	5 : 1 (Interlab)	23	22	4				**23**	**15**	**42**
	Mercury	mg/kg	0.1	<0.1	<0.1	0				<0.1	<0.1	0
	Nickel	mg/kg	5 : 1 (Interlab)	27	23	16				**27**	**19**	**35**
	Zinc	mg/kg	5 : 1 (Interlab)	110	120	9				110	96	14
etalloids												
1999)												
TRHs (NEPC	C6-C10	mg/kg	20 : 25 (Interlab)	<20	<20	0				<20	<25	0
	C10-C16	mg/kg	50	<50	<50	0				**<50**	**99**	**66**
	C16-C34	mg/kg	100	130	100	26				**130**	**200**	**42**
	C34-C40	mg/kg	100	<100	<100	0				<100	<100	0
	C10-C40 (Su	mg/kg	100 : 50 (Interlab)	130	100	26				**130**	**300**	**79**
	F1 (C6-C10	mg/kg	20 : 25 (Interlab)	<20	<20	0				<20	<25	0
	F2 (C10-C16	mg/kg	50	<50	<50	0				**<50**	**99**	**66**
2013)												
BTEXN	Benzene	mg/kg	0.1 : 0.2 (Interlab)	<0.1	<0.1	0				<0.1	<0.2	0
	Toluene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0				<0.1	<0.5	0
	Ethylbenzen	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0				<0.1	<1	0
	Xylene (o)	mg/kg	0.1 : 1 (Interlab)	<0.1	<0.1	0				<0.1	<1	0
	Xylene (m &	mg/kg	0.2 : 2 (Interlab)	<0.2	<0.2	0				<0.2	<2	0
	Xylene Tota	mg/kg	0.3 : 3 (Interlab)	<0.3	<0.3	0				<0.3	<3	0
	Naphthalen	mg/kg	0.5	<0.5	<0.5	0				<0.5		
PAH	Acenaphthe	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Acenaphthy	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Anthracene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Benz(a)anth	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Benzo(a) py	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0				<0.5	0.1	0
	Benzo(a)pyr	mg/kg	0.5	0.6	0.6	0				0.6	<0.5	18
	Benzo(a)pyr	mg/kg	0.5	<0.5	<0.5	0				<0.5	<0.5	0
	Benzo(b+j)fl	mg/kg	0.5	<0.5	<0.5	0				<0.5		
	Benzo(g,h,i)	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Benzo(k)fluo	mg/kg	0.5	<0.5	<0.5	0				<0.5		
	Chrysene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Dibenz(a,h)a	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Fluoranthen	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Fluorene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Indeno(1,2,3	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Naphthalen	mg/kg	0.5	<0.5	<0.5	0				<0.5		
	Phenanthre	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Pyrene	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	PAHs (Sum o	mg/kg	0.5 : 0.05 (Interlab)	<0.5	<0.5	0				<0.5	0.1	0
Organochlo	4,4-DDE	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	a-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	b-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	d-BHC	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	g-BHC (Linda	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Aldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Dieldrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Aldrin + Die	mg/kg	0.05	<0.05	<0.05	0				<0.05		
	Chlordane	mg/kg	0.1	<0.1	<0.1	0				<0.1		
	DDT	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	DDD	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	DDT+DDE+D	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endosulfan	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endrin	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endrin aldeh	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Endrin keto	mg/kg	0.05	<0.05	<0.05	0				<0.05		
	Heptachlor	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Heptachlor	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
	Methoxychl	mg/kg	0.2 : 0.1 (Interlab)	<0.2	<0.2	0				<0.2	<0.1	0
	Toxaphene	mg/kg	0.1	<0.1	<0.1	0				<0.1		
rine Pesticides												
Polychlorina	Arochlor 10	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Arochlor 12	mg/kg	0.1	<0.1	<0.1	0				<0.1	<0.1	0
	Arochlor 12	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Arochlor 12	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Arochlor 12	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Arochlor 12	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	Arochlor 12	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
	PCBs (Sum o	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0				<0.5	<0.1	0
ited Biphenyls												
Chlorinated	Hexachlorol	mg/kg	0.05 : 0.1 (Interlab)	<0.05	<0.05	0				<0.05	<0.1	0
Benzenes												
EPA VIC - IW	Organochlo	mg/kg	0.1	<0.2	<0.2	0				<0.2		
	Other Orgar	mg/kg	0.1	<0.2	<0.2	0				<0.2		
/RG621												
Asbestos - E	Approximat	g					547	351	44			
	Mass ACM	g					0.0E0	0.0E0	0			
	Mass Asbes	g					0.0E0	0.0E0	0			
	Asbestos fro	% (w/w)					0.0E0	0.0E0	0			
	Mass FA	g					0.0E0	0.0E0	0			
	Mass Asbes	g					0.0E0	0.0E0	0			
	Mass AF	g					0.0E0	0.0E0	0			
	Mass asbest	g					0.0E0	0.0E0	0			
	Asbestos fro	% (w/w)					0.0E0	0.0E0	0			
	Mass Asbes	g					0.0E0	0.0E0	0			
	ACM - Comi	Comment					1	1	0			
	FA- Comme	Comment					1	1	0			
	AF - Comme	Comment					1	1	0			
	Organic Fibr	Comment					1	1	0			
	Respirable F	Comment					1	1	0			
	Synthetic Fi	Comment					1	1	0			
	Asbestos Re	Comment					1	1	0			
urofins												
Other	Moisture Co	%	1	11	9.1	19				11		

*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 laborator

Appendix J Field Records and Calibration Sheets

Field Equipment Calibration and Decontamination

PROJECT NAME:	SNACK BRANDS ESA	PROJECT NO:	60586
FIELD DATES:	1/4/21	FIELD STAFF:	MC

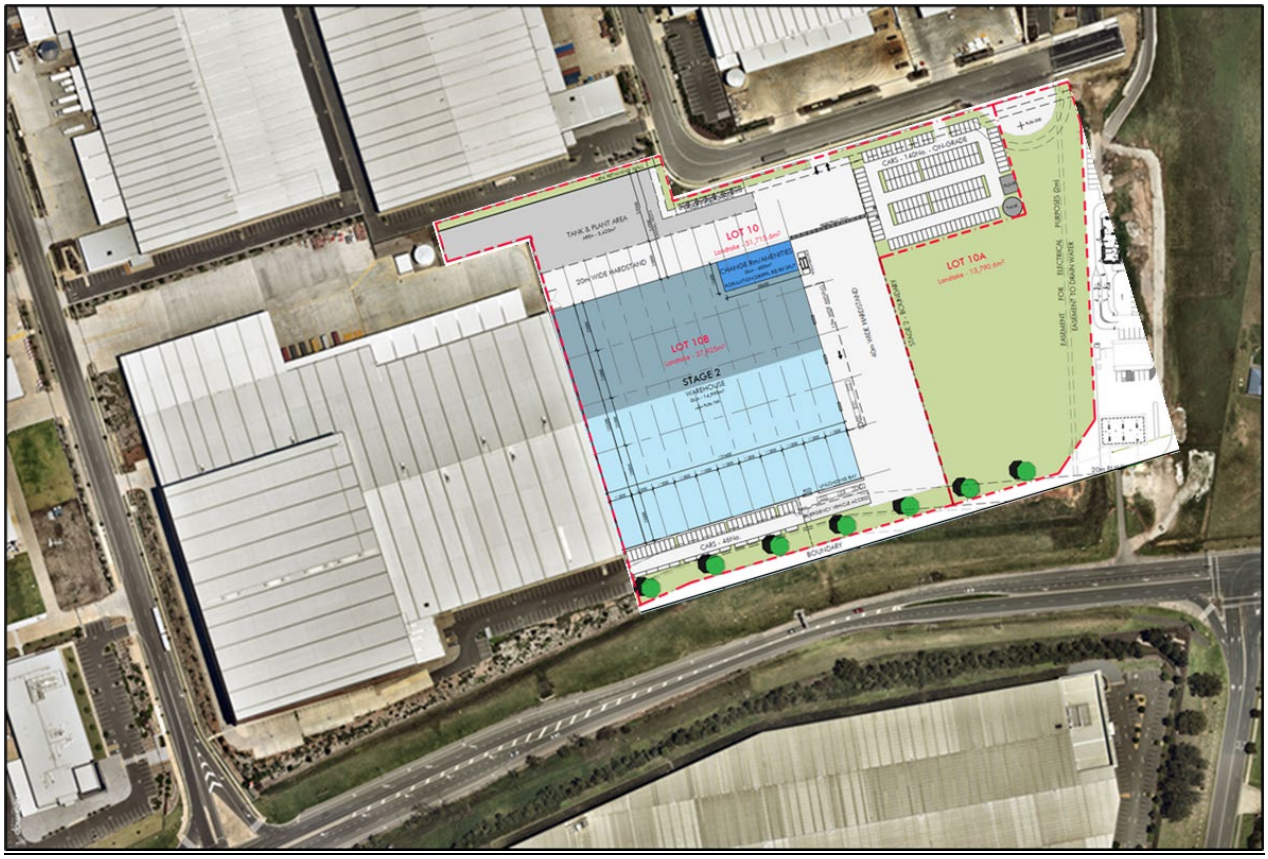
CALIBRATION SUMMARY
EQUIPMENT:
CALIBRATION STANDARD:

DATE	TIME	READING (ppm)	COMMENTS

DECONTAMINATION SUMMARY			
EQUIPMENT: SFA			
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. clean nitrile gloves for each soil sample			

Appendix K Development Plans

INDICATIVE SITE LAYOUT (CONTEXT ONLY)



Appendix L Groundwater Bore Records

WaterNSW
Work Summary

GW110029

Licence: 10BL162687
Licence Status: ACTIVE

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

Work Type: Bore
Work Status:
Construct.Method: Hand Auger
Owner Type: Private

Commenced Date:
Completion Date: 01/02/2004
Final Depth: 0.75 m
Drilled Depth: 0.75 m

Contractor Name: (None)
Driller: Unkown Unknown
Assistant Driller:

Property: AUSTRALIA PIPES 576 Mamre Rd ERSKINE PARK 2759 NSW
GWMA: -
GW Zone: -
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	MELVILLE	141//843899
Licensed:	CUMBERLAND	MELVILLE	Whole Lot 141//843899

Region: 10 - Sydney South Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6255217.000
Easting: 294449.000
Latitude: 33°49'23.9"S
Longitude: 150°46'44.3"E

GS Map: -
MGA Zone: 56
Coordinate Source: Unknown

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	0.75	65			Hand Dug
1	1	Casing	Lining	0.00	0.75				

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	TOPSOIL	Topsoil	
0.20	0.50	0.30	SILTY CLAY	Silty Clay	
0.50	0.75	0.25	HEAVY CLAY	Haematite	

***** End of GW110029 *****

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

WaterNSW
Work Summary

GW110030

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

Work Type: Bore
Work Status:
Construct.Method: Hand Auger
Owner Type: Private

Commenced Date:
Completion Date: 01/02/2004
Final Depth: 0.75 m
Drilled Depth: 0.75 m

Contractor Name: (None)
Driller: Unkown Unknown
Assistant Driller:

Property:
GWMA:
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	MELVILLE	3//1124329
Licensed:			

Region: 10 - Sydney South Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6255146.000
Easting: 294533.000
Latitude: 33°49'26.3"S
Longitude: 150°46'47.5"E

GS Map: -
MGA Zone: 56
Coordinate Source: Unknown

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	0.75	65			Hand Auger
1	1	Casing	Lining	0.00	0.75				

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	TOPSOIL	Topsoil	
0.20	0.60	0.40	SILTY CLAY	Silty Clay	
0.60	0.75	0.15	HEAVY CLAY	Haematite	

***** End of GW110030 *****

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WaterNSW
Work Summary

GW110031

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

Work Type: Bore
Work Status:
Construct.Method: Hand Auger
Owner Type: Private

Commenced Date:
Completion Date: 01/02/2004
Final Depth: 0.75 m
Drilled Depth: 0.75 m

Contractor Name: (None)
Driller: Unkown Unknown
Assistant Driller:

Property:
GWMA:
GW Zone:
Standing Water Level (m):
Salinity Description:
Yield (L/s):

Site Details

Site Chosen By:

	County	Parish	Cadastre
Form A:	CUMBERLAND	MELVILLE	3//1124329
Licensed:			

Region: 10 - Sydney South Coast
River Basin: - Unknown
Area/District:
CMA Map:
Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Source: Unknown
Northing: 6255058.000
Easting: 294555.000
Latitude: 33°49'29.1"S
Longitude: 150°46'48.3"E

GS Map: -
MGA Zone: 56
Coordinate Source: Unknown

Construction

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

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	0.75	65			Hand Auger
1	1	Casing	Lining	0.00	0.75				

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.20	0.20	TOPSOIL	Topsoil	
0.20	0.40	0.20	SILTY CLAY	Silty Clay	
0.40	0.75	0.35	HEAVY CLAY	Haematite	

***** End of GW110031 *****

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